

The Genus *Elasmopus* (Crustacea: Amphipoda: Melitidae) from Mauritius (Indian Ocean) with Description of Five New Species

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ABSTRACT. Nine species of the genus *Elasmopus* collected in the intertidal and shallow-subtidal zone of Mauritius are described and figured. These comprise five species, *E. palu* n.sp., *E. pseudinteger* n.sp., *E. souillacensis* n.sp., *E. steelei* n.sp., *E. puteus* n.sp., which are new to science, two species, *E. menurte* J.L. Barnard and *E. spinimanus* Walker that are recorded from Mauritius for the first time and two species, *E. spinidactylus* Chevreux and *E. pectenircrus* (Bate) that were previously known from Mauritius. The genus *Elasmopus* is one of the most diverse genera of amphipods known from the island. A key to the *Elasmopus* species of Mauritius is provided.

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The genus *Elasmopus* is one of the most diverse melitid genera in the Indopacific tropics. Ledoyer (1978) recorded five species from Mauritius: *E. ecuadorensis hawaiiensis* Schellenberg, 1938 (= ?*E. palu* n.sp.), *E. hooheno* J.L. Barnard, 1970 (= *E. pseudinteger* n.sp.), *E. molakai* [sic] *pilosus* Ledoyer, 1978, *E. pseudaffinis* Schellenberg, 1938 form A and B (clearly two species but neither apparently *E. pseudaffinis* Schellenberg) and *Elasmopus* sp. (insufficiently described and figured for any judgment to be made). Appadoo & Steele (1998) added a further three species, *E. pectenircrus* (Bate, 1862), *E. spinidactylus* Chevreux, 1908 and *Elasmopus* sp.

This paper reports on nine species of *Elasmopus* collected in Mauritius between 1998 and 2000, and includes five new

species and two new records for the island. Taxonomic descriptions of the new species and figures and descriptions of previously unrecorded and recorded species are presented.

Material and methods

Amphipods were collected from algae, seagrass and coral rubble from 24 sites around the island of Mauritius from February 1998 to February 2000. All sites were visited at low tide and samples were collected from the intertidal and shallow subtidal zones. Algae and rubble were collected by scraping them from their substrates using a small hand trowel. Amphipods were collected using the formalin wash method (see Myers, 1985).

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Prior to dissection, the body length of amphipods was recorded by holding the body straight and measuring the length from the base of antenna 1 to the base of the telson. A stereomicroscope with a micrometre scale eyepiece was used for measuring.

Drawings were made using a Nikon compound microscope equipped with a drawing tube attachment.

Type material is deposited in the Australian Museum, Sydney (AM); specimens listed under accession numbers prefixed P are deposited in the AM. All other material is kept in the first author's (Chandani Appadoo) collection.

Abbreviations used in figures. A, antenna (1–2); C, coxa; D, dactylus (3–7); Ep, epimeron; G, gnathopod (1–2); L, labium; Md, mandible; Mx, maxilla (1–2); Mxp, maxilliped; P, pereopod (3–7); p, palp; T, telson; U, uropods (1–3).

Taxonomic section

Elasmopus menurte J.L. Barnard

Figs. 1, 2

Elasmopus menurte J.L. Barnard, 1974: 21, figs. 14, 15.

Elasmopus ecuadorensis hawaiiensis.—Appadoo & Steele, 1998: 639.

Material examined. 1 juvenile from mixture of red coralline algae and the alga *Gracilaria salicornia*, Balaclava (20°3.7'S 57°30.7'E), 10 Sep. 1998. 1♀ from the alga *Enteromorpha flexuosa*, Flic-en-Flac (20°16.5'S 57°21.7'E), 9 Nov. 1998. 1♀, 1 juv., from *Gracilaria* sp., Souillac (20°31'S 57°30.7'E), 25 Mar. 1999. 3♂♂, 1♀, 2 juv., from mixture of the algae *Digenia simplex*, *Laurencia papillosa*, *Centroceras clavulatum*, *Padina* sp. and *Gracilaria salicornia*, Roches Noires (20°6.2'S 57°44.5'E), 9 Apr. 1999. 3♀♀ from mixture of *Padina* sp. and the alga *Halimeda* sp., Grand Baie (20°0.5'S 57°34'E), 5 May 1999. 1♀ from *Digenia simplex*, *Padina* sp. and the alga *Jania adherens*, Roches Noires, 21 Jun. 1999. 3♂♂, 4♀♀, 6 juv., from mixture of the algae *Laurencia papillosa*, *Padina* sp., *Digenia simplex*, *Dictyota divaricata* and *Jania adherens*, Trou D'eau Douce (20°14.5'S 57°47'E), 21 Jun. 1999. 1♂, 1 juv., from *Digenia simplex*, *Padina* sp. and *Jania adherens*, Roches Noires, 6 Aug. 1999. 2♂♂, 3♀♀ from *Ulva lactuca*, Palmar (20°13.5'S 57°48'E), 6 Aug. 1999. 1♂, 1♀ from the alga *Sargassum* sp., La Cuvette (20°00'S 57°34.2'E), 12 Oct. 1999. 7♂♂, 28♀♀, 12 juv. from mixture of *Digenia simplex*, *Padina* sp. and globose brown algae, Roches Noires, 15 Oct. 1999. 1♀ from mixture of *Padina* sp., *Sargassum densifolium*, the alga *Pocockiella variegata* and globose brown alga, Bain Boeuf (19°59'S 57°36'E), 13 Dec. 1999. 1♂, 4♀♀, from mixture of *Padina* sp., *Digenia simplex*, *Sargassum* sp., globose brown alga, Roches Noires, 16 Dec. 1999.

Description. Male: length 6.7 mm. Head, lateral cephalic lobes rounded, with subocular notch, eyes large and subround with ring of clear ommatidia surrounding a dark core. Antenna 1, peduncle article 1 with robust seta and a few slender setae on posterior margin; article 2 subequal to 1; article 3, 0.6× length of article 1; accessory flagellum 3-articulate, the third article vestigial; primary flagellum 21-articulate. Antenna 2, peduncle articles 4 and 5 setose; article 5, 0.8× length of article 4; flagellum 7-articulate. Mandible, palp article 2, 1.5× article 1, with several medial and several distal setae; article 3 falcate, subequal to article 2, with comb row of setae, 2 long apical setae and 2 shorter setae on anterior margin. Maxilla 1, inner plate with 2 terminal plumose setae and several fine setae on inner margin. Labium, with rounded mandibular lobes; outer plate with blunt stout seta on inner margin. Maxilliped,

palp article 3 with a small distal protuberance. Gnathopod 1, coxa produced anterodistally, rounded, 1.6× as long as broad, distal margin with very short setae; basis twice as long as broad; propodus slightly longer than carpus, with 2 distinct semicircular comb rows of setae on inner medial face, palm defined by a robust seta. Gnathopod 2, coxa about 1.5× as long as broad, distal margin with short setae; basis 3× as long as broad; merus posterodistal margin weakly produced, carpus twice as broad as long; propodus about 5× as long as carpus, posterior margin densely setose, distal part of palm with robust setae on a shallow protuberance; inner medial face of propodus with a small ridge carrying robust setae; dactylus about half length of propodus, inner margin weakly crenulate. Pereopods 3–4, coxa distal margin with short setae; propodus 1.2× as long as carpus, posterodistal margin with 1 long and 1 short straight robust seta; dactylus subdistally constricted. Pereopods 5–7, basis weakly serrate with short setae. Pereopods 5–6, basis posterior margin weakly convex, posterodistal margin produced into a rounded lobe. Pereopod 7, basis posterior margin strongly convex, posterodistal corner subtriangular. Epimera 1–3, with weakly developed posterodistal tooth, distal margin with a single row of 1 to 3 robust setae. Epimeron 3 subquadrate. Pleon and urosomite 1, with short fine dorsal setae. Urosomite 1, with a low, triangular, dorsal hump. Uropod 1, peduncle 1.2× length of inner ramus; outer ramus subequal in length to inner ramus. Uropod 2, peduncle subequal to inner ramus; outer ramus 1.2× length of inner ramus. Uropod 3, peduncle subequal to inner ramus; outer ramus 1.2× length of inner ramus; both rami with robust setae on lateral margin; outer ramus truncate, with terminal robust setae and 1 long slender seta. Telson, cleft to about 75% its length; telsonic lobes notched and with two to three robust distal setae.

Female sexually dimorphic characters: length, 4.7 mm (with oostegites). Gnathopod 1, similar to that of male but basis more slender, 3× as long as broad; propodus subequal to carpus. Gnathopod 2, coxa subquadrate 1.6× as long as broad, posterior margin with short robust setae; basis 3× as long as broad; propodus 1.8× as long as carpus, twice as long as broad, posterior margin with long slender setae, palmar border with stout robust setae interspersed between long slender setae.

Variation. The telson apices are asymmetrical (inner tooth more produced than the outer) in large males (e.g., 6.7 mm) but symmetrical in juveniles (e.g., 4.3 mm).

Remarks. This is the first record of *E. menurte* from Mauritius. Present material agrees closely with the description of J.L. Barnard (1974). The species is distinguished from all other *Elasmopus* species in Mauritius by the following characters in combination: the short setae on the coxal plates of gnathopods 1 and 2, the presence of robust setae on a protuberance on the palm of the male gnathopod 2, the simple robust setae on the posterodistal margin of the propodus of pereopods 3 and 4, the shape of the telson and the presence of a small hump on urosomite 1.

Type locality. Western Australia, west of Bunker Bay, Cape Naturaliste.

Distribution. Western Australia; Mauritius.

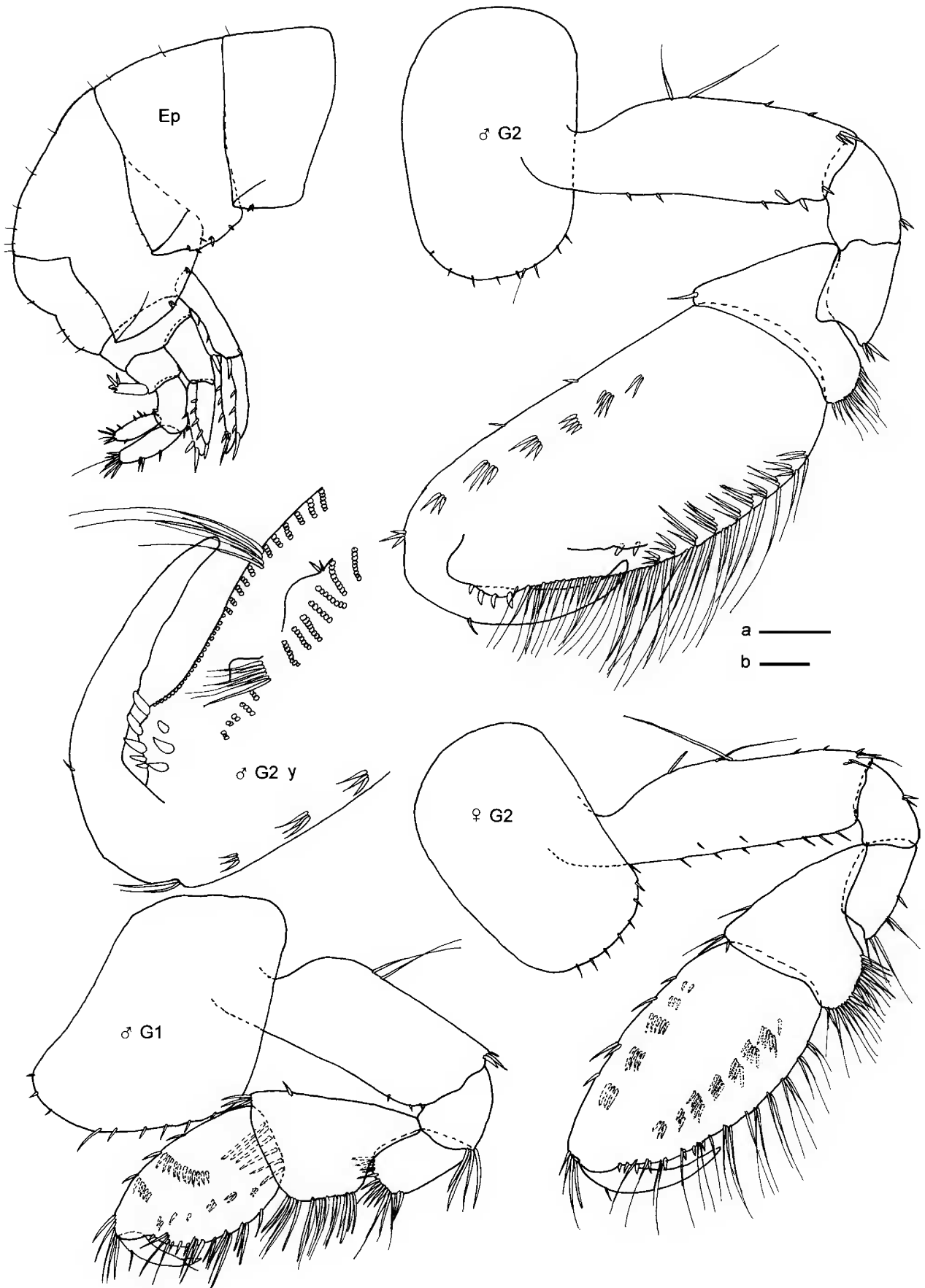


Fig. 1. *Elasmopus menurte* J.L. Barnard: ♂, 6.2 mm, Palmar, scale *a* = 0.4 mm (*Ep*); ♂, 6.7 mm, Trou D'eau Douce, scale *b* = 0.1 mm (*G2y*); ♂, 4.3 mm, Roches Noires, scale *b* = 0.1 mm (*G1-2*); ♀, 4.7 mm, Roches Noires, scale *b* = 0.1 mm (*G2*).

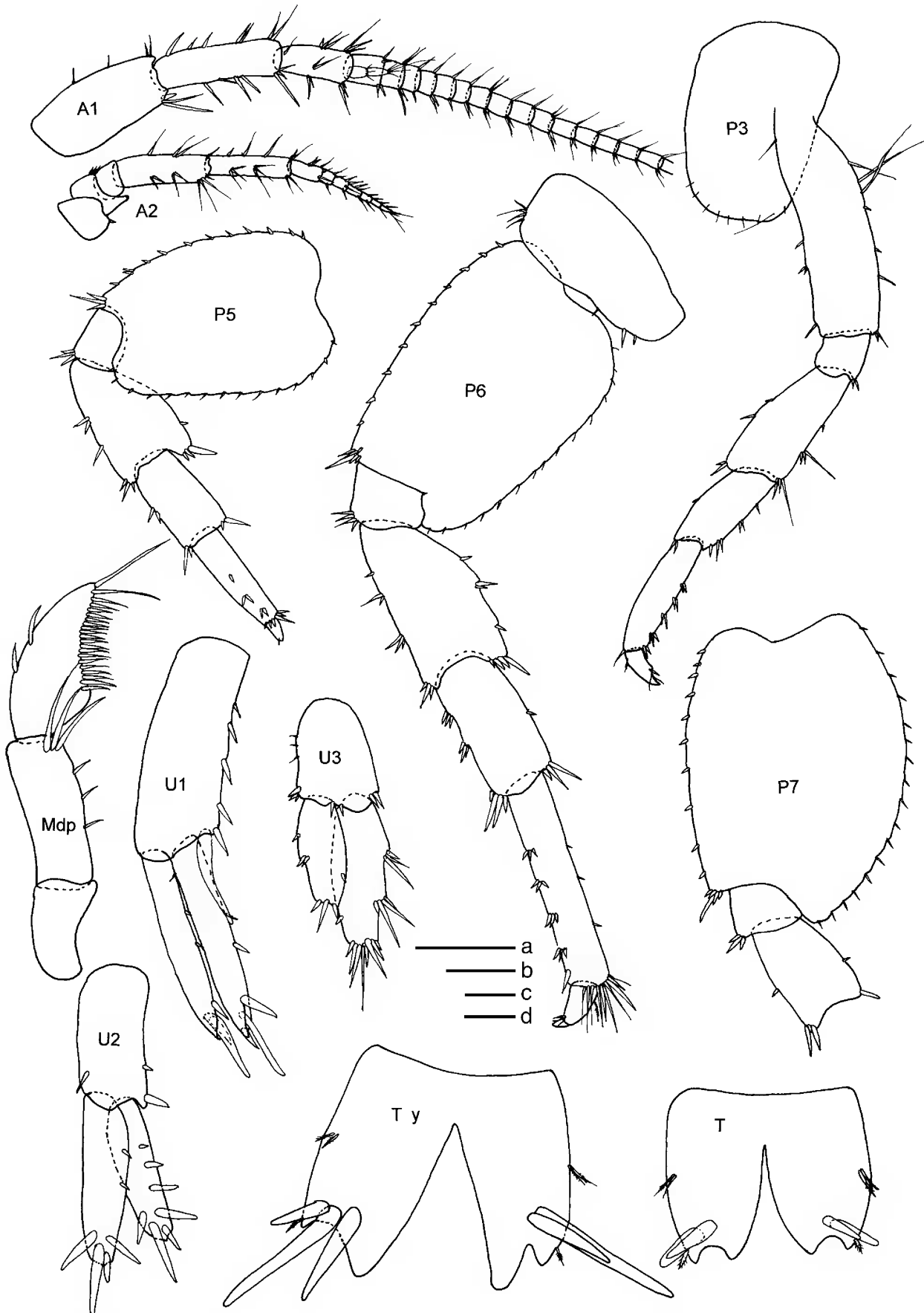


Fig. 2. *Elasmopus menurte* J.L. Barnard: ♂, 4.3 mm, Roches Noires, scales $a = 0.4$ mm (A1–2), $b = 0.2$ mm (P3, P5–7), $c = 0.1$ mm (U1–3), $d = 0.05$ mm (Mdp, T); ♂, 6.7 mm, Trou D'eau Douce, scale $d = 0.05$ mm (Ty).

Elasmopus palu n.sp.

Fig. 3

?Elasmopus ecuadorensis hawaiiensis.—Ledoyer, 1978: 269, fig. 27.

Type material. HOLOTYPE: ♂, 2.5 mm (slides and carcass) from *Padina*, *Pocockiella variegata* and coral rubble, Flic-en-Flac (20°16.5'S 57°21.7'E), 10 Dec. 1999, AM P60543. PARATYPES: 2 ♀, same data as holotype, AM P60542.

Description. Male: Length, 2.5 mm. Head, with subocular notch; eyes large, oval with well-developed ring of clear ommatidia surrounding a dark central core. Antenna 1, peduncle article 2 subequal to 1; article 3, 0.5× article 1; accessory flagellum 1-articulate; primary flagellum 14-articulate, the terminal article rudimentary. Antenna 2, article 5, 0.9× article 4; flagellum 7-articulate. Mandible, palp article 2 with 1 small medial and 2 distal setae; article 3 falcate, 1.2× article 2 with comb row of setae and 4 long apical setae. Maxilla 1, inner plate with 2 terminal plumose setae, and several fine setae on inner margin. Labium, with mandibular lobes acute; outer plate with a blunt stout seta on inner margin. Maxilliped, palp article 3 with a small distal protuberance. Gnathopod 1, coxa 1.5× as long as broad, weakly produced anterodistally, distal margin with short setae; basis 2.3× as long as broad; propodus 1.2× carpus, palm defined by a stout robust seta. Gnathopod 2, coxa 1.8× as long as broad, distal margin with short setae; basis 2.8× as long as broad; carpus cup-shaped, twice as broad as long; propodus 3.7× carpus, 1.9× as long as broad, posterior margin densely setose, setae longest proximally but reducing in length sequentially towards distal end, palm a short shelf followed by a concavity, inner face of propodus with a small ridge bearing short robust and fine setae; dactylus about half length of propodus. Pereopod 3–4, coxa with short setae on distal margin; propodus posterodistal margin with 1 curved striate sabre seta and 1 straight robust seta. Pereopod 5–7, basis posterior margin castellate with short setae. Epimera 1–3, with a row of robust setae on the anterodistal margin. Epimeron 3, posterodistal margin with 2 teeth. Uropod 1, peduncle subequal to inner ramus; outer ramus 0.9× inner ramus. Uropod 2, outer ramus 0.8× inner ramus. Uropod 3, peduncle 1.3× inner ramus; inner ramus twice as long as broad, 0.6× outer ramus. Telson, cleft to about 75% its length, with notched and broadly sinuous apices, each with 2 robust setae.

Female secondary sexual characters: length, 2.9 mm (ovigerous). Gnathopod 1, similar to that of male but basis 2.5× as long as broad. Gnathopod 2, coxa 1.7× as long as broad; basis 3× as long as broad; carpus 1.4× as long as broad; propodus twice as long as carpus, 2.2× as long as broad, palm oblique, defined by a robust seta.

Remarks. *Elasmopus palu* n.sp. resembles *E. lapu* Myers (1985), but differs in several ways: in *E. palu*, the distal margins of coxa 1 and 2 lack dense long setae, the flagellum of antenna 1 is 14-articulate (20-articulate in *E. lapu*), the carpus of the male gnathopod 2 is less compressed and epimeron 3 has two teeth on the posterodistal margin, which are lacking in *E. lapu*. *Elasmopus lapu* reaches 5.5 mm whereas *E. palu* is only 2.5 mm in the male and 2.9 mm in the female. The species described by Ledoyer (1978) from Mauritius under the name *Elasmopus ecuadorensis*

hawaiiensis closely resembles *E. palu*. Similarities include the development of a tooth on the inner face of the posterior margin of the male gnathopod 2 propodus (better developed in Ledoyer's figures) and a strong almost transverse palmar shelf, the presence of two small teeth on the posterodistal corner of epimeron 3, the unequal uropod 3 rami and the shape of the basis of pereopods 5–7. The only difference is the presence of long setae on coxae 1–2 of Ledoyer's specimens and the precise allocation of this material must await further study.

Type locality. Flic-en-Flac, Mauritius.

Distribution. Mauritius.

Etymology. An anagram of "lapu" recording its close similarity to *Elasmopus lapu* Myers, 1985.

Elasmopus pecteniscrus (Bate)

Fig. 4

Maera pecteniscrus Bate, 1862: 192, pl. 34(8).

Elasmopus pecteniscrus.—K.H. Barnard, 1916: 197, pl. 28(33).—K.H. Barnard, 1940: 461.—Schellenberg, 1928: 647; 1938: 55.—Shoemaker, 1935: 238.—Pirlot, 1936: 312.—Ruffo, 1938: 162; 1969: 28.—Reid, 1951: 236, fig. 32.—J.L. Barnard, 1955: 8, fig. 4.—J.L. Barnard, 1970: 126, figs. 73, 74.—Nayar, 1959: 27, pl. 9(20–35).—Sivaprakasam, 1966: 103.—Griffiths, 1974a: 235; 1974b: 289; 1975: 121.—Ledoyer, 1982: 475, figs. 179, 180a.—Appadoo & Steele, 1998: 639.

Material examined. 1 ♂ from the alga *Centroceras clavulatum*, la Cuvette (20°00'S 57°34.2'E), 28 Aug. 1999. 3 ♂♂ from mixture of the algae *Sargassum* sp., *Ulva reticulata*, *Digenia simplex* and *Centroceras clavulatum*, La Cuvette, 25 Jan. 2000.

Description. Male: length, 6.2 mm. Head, with subocular notch; eyes oval, with ring of clear ommatidia and a dark central core. Antenna 1, peduncle article 1 with few setae; article 2 subequal to 1; article 3, 0.7× article 1; accessory flagellum 2-articulate; primary flagellum 20-articulate. Antenna 2, peduncle articles 4 and 5 setose; article 5 slightly longer than article 4, flagellum 10-articulate. Mandible, palp article 2 twice as long as article 1, with setae on medial and lateral surfaces; article 3 falcate, 1.2× article 2, with comb-row of setae and 4 long apical setae. Maxilla 1, inner plate with 2 terminal plumose setae and several fine setae on inner margin. Labium, mandibular lobes rounded; outer plate with a small blunt stout seta on inner margin. Maxilliped, palp article 3 with a small protuberance at distal end. Gnathopod 1, coxa expanded anterodistally, 1.2× as long as broad, distal margin with very short setae; basis almost 3× as long as broad, posterior margin with patches of long setae; carpus 1.2× length of propodus with dense medial rows of long pectinate setae; propodus 1.5× as long as broad, anterior margin with 6 groups of setae, palm defined by a short robust seta. Gnathopod 2, coxa 1.2× as long as broad, distal margin with short setae; basis 3.4× as long as broad; carpus reduced, about 2.2× as broad as long; propodus 6× as long as carpus, palm short, almost transverse, posterior margin sinuous, with dense pectinate setae along almost entire length; dactylus slender, evenly curved, reaching about half length of propodus. Pereopods 3–4, basis slender, 4× as long as broad; propodus posterodistal margin with 1 long and 1 short straight robust seta; dactylus

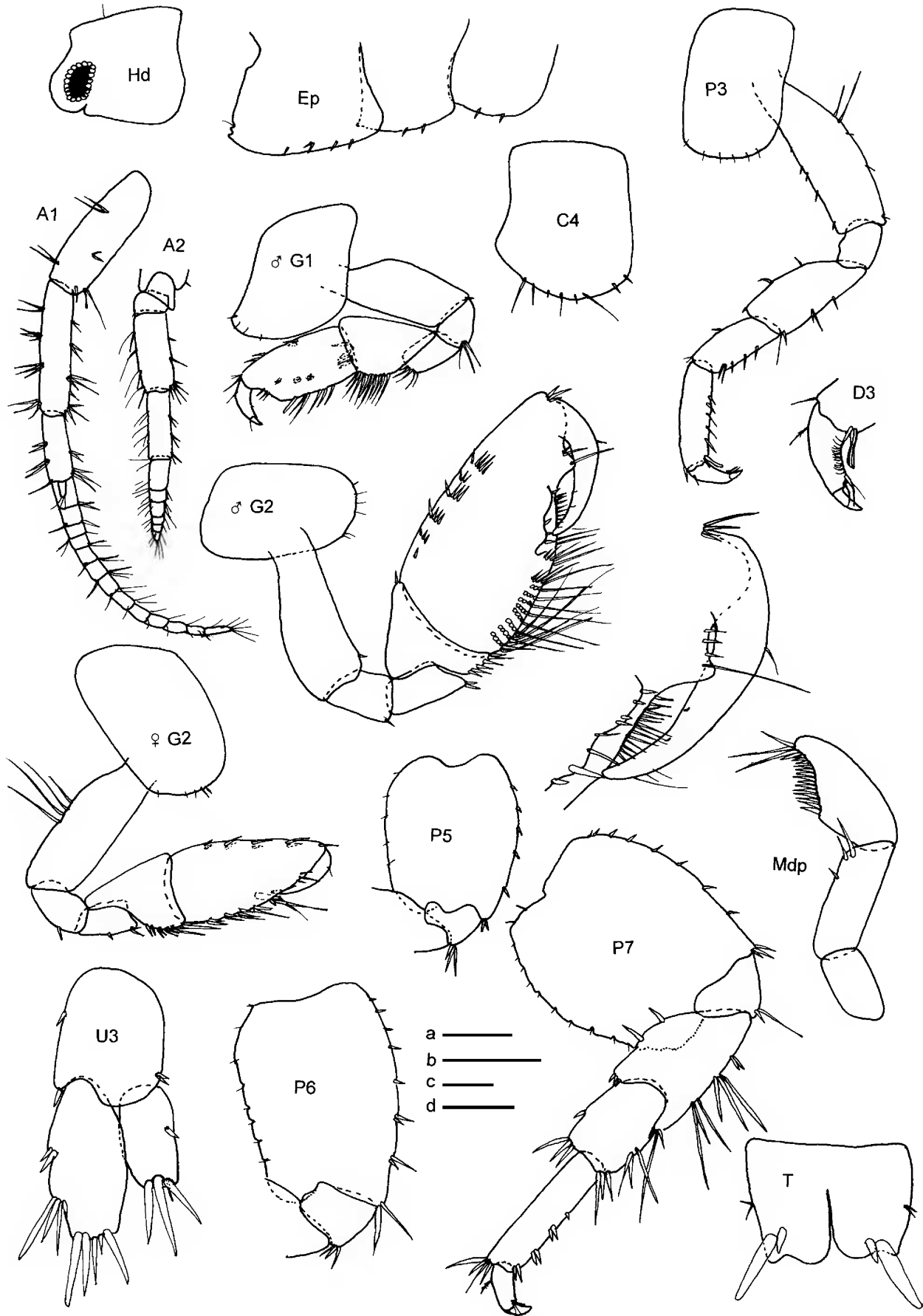


Fig. 3. *Elasmopus palu* n.sp.: ♂, 2.5 mm, Flic-en-Flac, scales $a = 0.2$ mm (*Hd*, *A1-2*, *Ep*), $b = 0.2$ mm (*G1*, *G2*, *P3*, *C4*, *P5-7*), $c = 0.05$ mm (enlargement of *G2*, *D3*, *U3*), $d = 0.05$ mm (*Mdp*); ♀, 2.9 mm, Flic-en-Flac, scales $b = 0.2$ mm (*G2*), $d = 0.05$ mm (*T*).

constricted subdistally. Pereopod 5, basis subovate, posterior margin weakly crenulate with short setae. Pereopod 6, basis posterior margin convex, produced into a subtriangular distal lobe, posterodistal margin deeply castelloserrate. Pereopod 7, basis posterior margin strongly convex, weakly castelloserrate with short setae. Epimera 1–2, with small posterodistal tooth. Epimeron 3, posterodistal margin weakly serrate, distal margin with row of robust setae in groups of 1–3. Uropod 1, outer ramus 0.7× length of peduncle and slightly shorter than inner ramus. Uropod 2, peduncle subequal to outer ramus; outer ramus 0.8× inner ramus. Uropod 3, peduncle subequal to inner ramus; inner ramus 0.7× length of outer ramus; rami truncate with robust setae on lateral margins and on apices. Telson, cleft 75% its length, apically truncate with 4 robust setae on each lobe.

Female. Not found.

Remarks. This species can be distinguished from the other *Elasmopus* species in Mauritius by the following characters in combination: short setae on coxae of gnathopods 1 and 2, the shape of gnathopod 2 with a long slender dactylus, the castelloserrate and triangular process on the basis of pereopod 6 and the truncate and spinous telson.

Type locality. New Guinea (see Bate, 1862).

Distribution. West Africa, South Africa, Madagascar, Mauritius, Red Sea, India, Indonesia, New Guinea, Australia, Hawaii, Caribbean.

Elasmopus pseudinteger n.sp.

Figs. 5, 6

Elasmopus hooheno.—Ledoyer, 1978: 269.—Appadoo & Steele, 1998: 639.

Not *E. hooheno* J.L. Barnard, 1970: 121, fig. 70.

Type material. HOLOTYPE: ♂, 5.2 mm, from the alga *Acanthophora spicifera*, Anse la Raie (19°59.5'S 57°37.5'E), 15 May 1998, AM P60544. PARATYPES: 5♂♂, 8♀♀, same data as holotype, AM P60545.

Additional material examined. 1♂, 3♀♀, 5 juv., from *Acanthophora spicifera*, Anse la Raie, 15 May 1998. 6♂♂, 6♀♀, 5 juv., from *Jania* sp. and *Valonia* sp., Bain Boeuf (19°59'S 57°36'E), 28 Aug. 1998. 6♀♀, 5 juv., from mixture of *Caulerpa racemosa*, *Digenia simplex* and *Jania adherens*, Roches Noires (20°6.2'S 57°44.5'E), 9 Apr. 1999. 1♂, 3♀♀, 4 juv., from *Laurencia papillosa*, Anse la Raie, 24 Jan. 2000. 1♂, 5♀♀, 1 juv., from mixture of *Padina* sp., *Gracilaria salicornia*, *Ulva lactuca*, *Hypnea cornuta* and *Dictyota divaricata*, Choisy (20°01'S 57°32.7'E), 25 Jan. 2000.

Description. Male: Length, 3.9 mm. Body, with 1 or 2 groups of setae on dorsum, pereon and pleon. Head, with rudimentary subocular notch; eyes large and subround with ring of clear ommatidia and a dark core. Antenna 1, peduncle articles 1 and 2 subequal; article 3, 0.6× article 1; accessory flagellum 1-articulate; primary flagellum 19-articulate. Antenna 2, articles 4 and 5 subequal; flagellum 7-articulate. Mandible, palp article 2 with 1 medial and 2 distal setae; article 3 falcate, 1.4× article 2, with comb row of setae and 3 long terminal setae. Maxilla 1, inner plate with 2 terminal plumose setae and fine setae on inner margin. Labium with mandibular lobes acute; outer plate with blunt stout seta on inner margin. Maxilliped, palp

article 3 with a small protuberance at distal end. Gnathopod 1, coxa subquadrate, 1.2× as long as broad, distal margin with setae reaching about half length of coxa; basis slightly expanded, 2.3× as long as broad, with a group of long setae on the posterior margin; propodus subequal to carpus, palm defined by a robust seta, anterior margin with 2 groups of setae. Gnathopod 2, coxa 1.3× as long as broad, distal margin with a group of setae about half the length of the coxa; basis 2.2× as long as broad, posterior margin with 4 long setae, distal end of anterior margin with about 5 robust setae; carpus cup-shaped, twice as broad as long; propodus 4× length of carpus, narrower distally, posterior margin poorly setiferous, inner face with 2 distal processes and 1 medial process between which is a pit for reception of the dactylar tip; dactylus falciform. Pereopods 3–4, basis 3.2× as long as broad; propodus posterodistal margin with 1 striate sabre seta and 1 normal robust seta; dactylus distally constricted. Pereopod 5, basis broad, posterior margin crenulate distally, with both short and very long setae; merus and carpus expanded, about as broad as long. Pereopod 6, basis almost as broad as long, posterior margin crenulate distally, with short and very long setae. Pereopod 7, basis posterior margin convex, crenulate with short and very long setae. Epimeron 1, subquadrate. Epimeron 2, posterodistal margin produced into a small tooth, distal margin with a few setae. Epimeron 3, posterodistal margin weakly scalloped with short setae, distal margin with several well-developed setae. Uropod 1, peduncle 1.3× rami; rami subequal. Uropod 2, peduncle subequal to inner ramus; inner ramus 1.1× outer ramus. Uropod 3, peduncle subequal to outer ramus; outer ramus 1.2× inner ramus; inner ramus with only terminal robust setae. Telson, subquadrate, as long as broad, uncleft, with 2 stout robust setae on each side.

Female secondary sexual characters: length, 3 mm (ovigerous). Gnathopod 1, coxa a little deeper and basis a little longer than that of male; propodus 1.2× length of carpus. Gnathopod 2, coxa 1.5× as long as broad; basis 2.7× as long as broad; propodus 1.8× carpus; palmar margin with defining robust seta.

Remarks. This species closely resembles *Elasmopus integer* Myers (1989) from the Society Islands. However, *Elasmopus pseudinteger* differs from *E. integer* in the 1-articulate accessory flagellum (two articulate in *E. integer*); the more slender mandibular palp with less setiferous article 2; the more setiferous basis of pereopods 5 to 7; the scalloped posterodistal margin of epimeron 3 (evenly convex with small posterodistal tooth in *E. integer*) and in the evenly convex posterior margin of the telson (with dorsodistal depression in *E. integer*).

An entire (uncleft) telson is known only in two other species of *Elasmopus*, *E. integer* Myers from the Society Islands and *E. takamotus* Myers (1986) from Niue Island. *Elasmopus pseudinteger* is thus easily distinguished from all other *Elasmopus* species in Mauritius.

Habitat. This species was found mostly among red algae along the north and northeast coast of Mauritius.

Type locality. Anse la Raie, Mauritius.

Distribution. Known only from Mauritius.

Etymology. From the Latin *pseudo*—false and *integer*, the name of a closely related species.

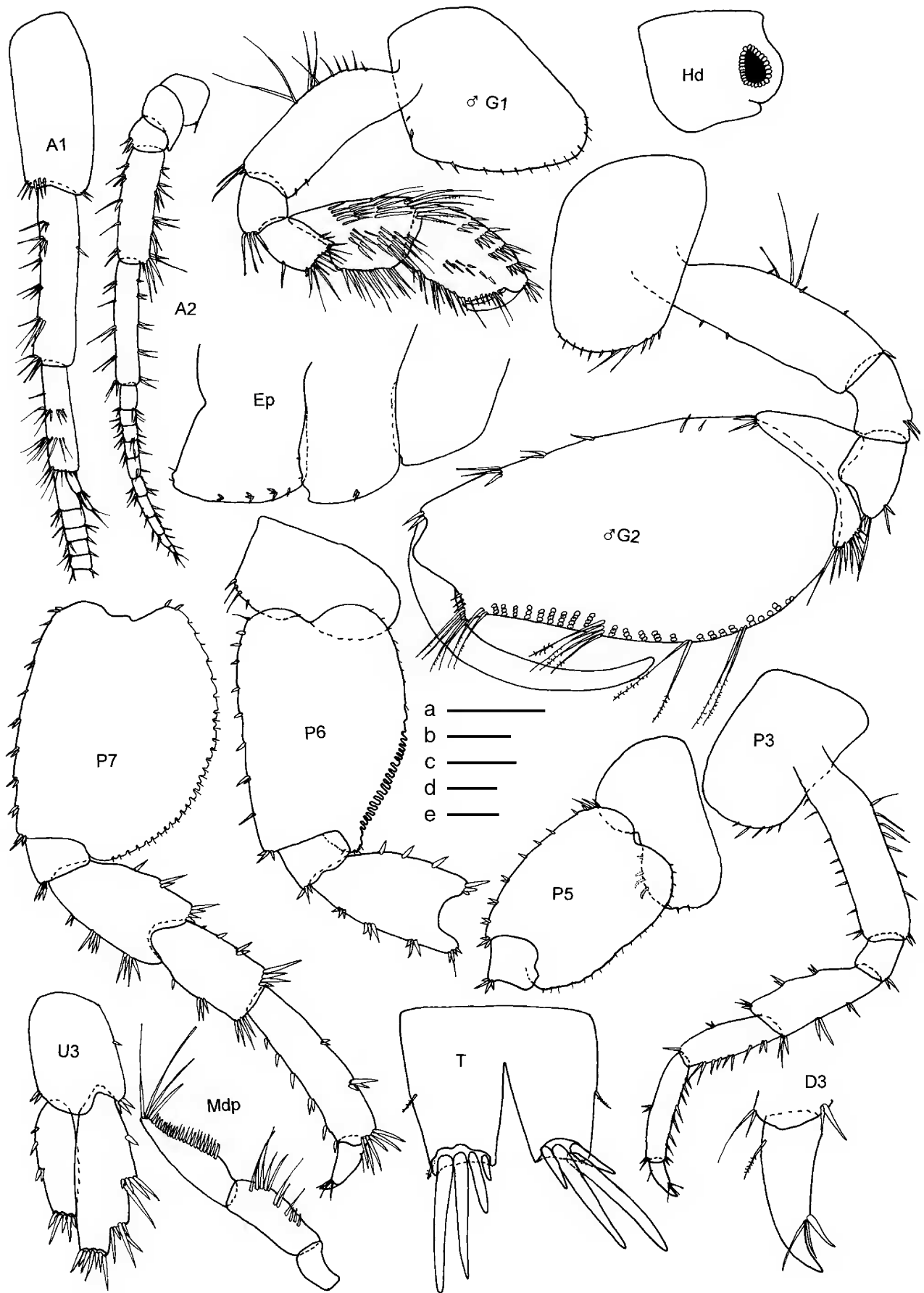


Fig. 4. *Elasmopus pecteniscus* (Bate): ♂, 6.2 mm, La Cuvette, scales a = 0.4 mm (A1–2, P3, P5–7), b = 0.2 mm (G1–2), c = 0.4 mm (Hd, Ep), d = 0.1 mm (Mdp, U3), e = 0.05 mm (D3, T).

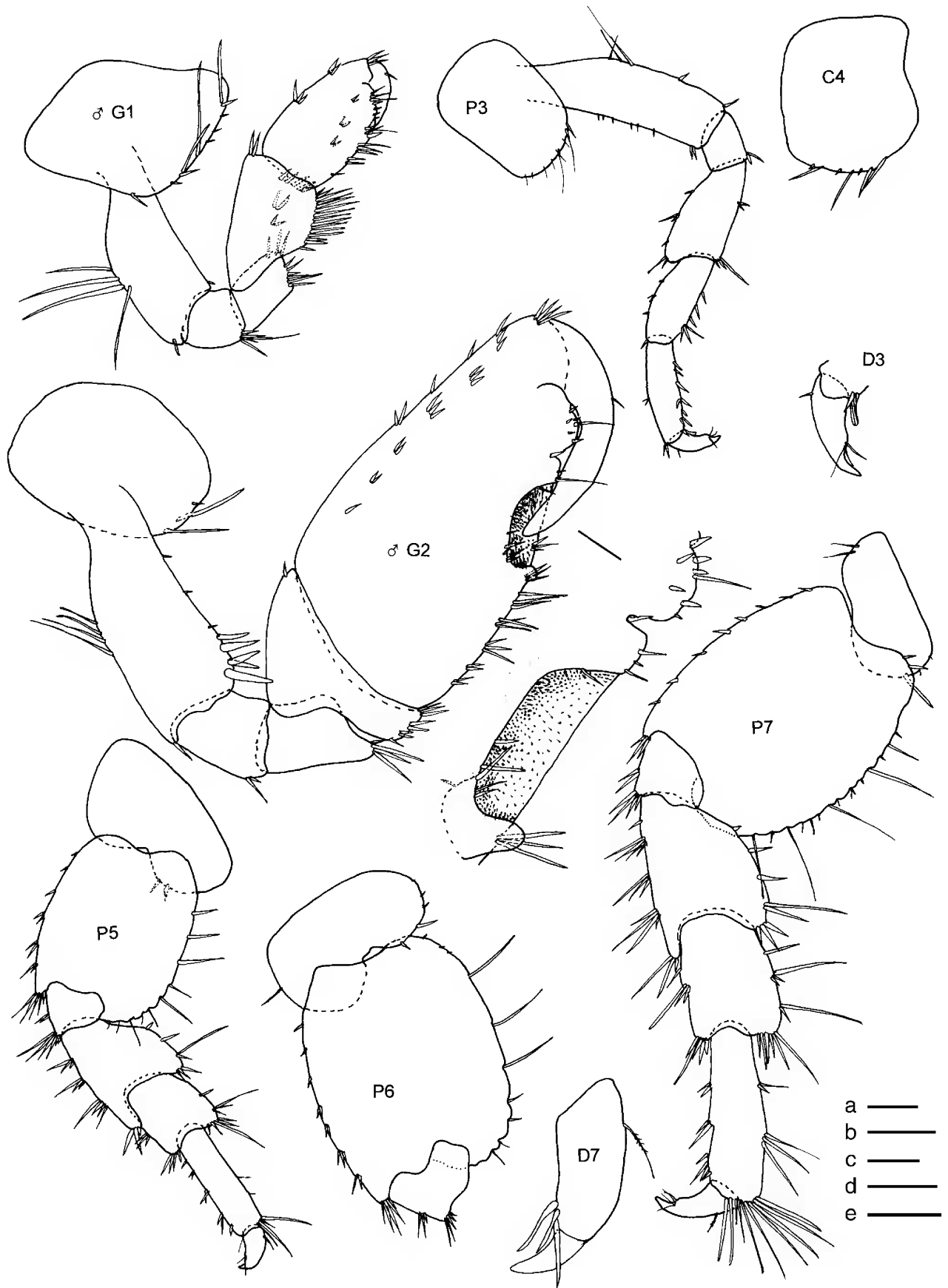


Fig. 5. *Elasmopus pseudinteger* n.sp.: ♂, 3.9 mm, Choisy, scales a = 0.1 mm (G1–2), b = 0.2 mm (C4, P3), c = 0.05 mm (G2 enlargement, D7), d = 0.2 mm (P5–7), e = 0.1 mm (D3).

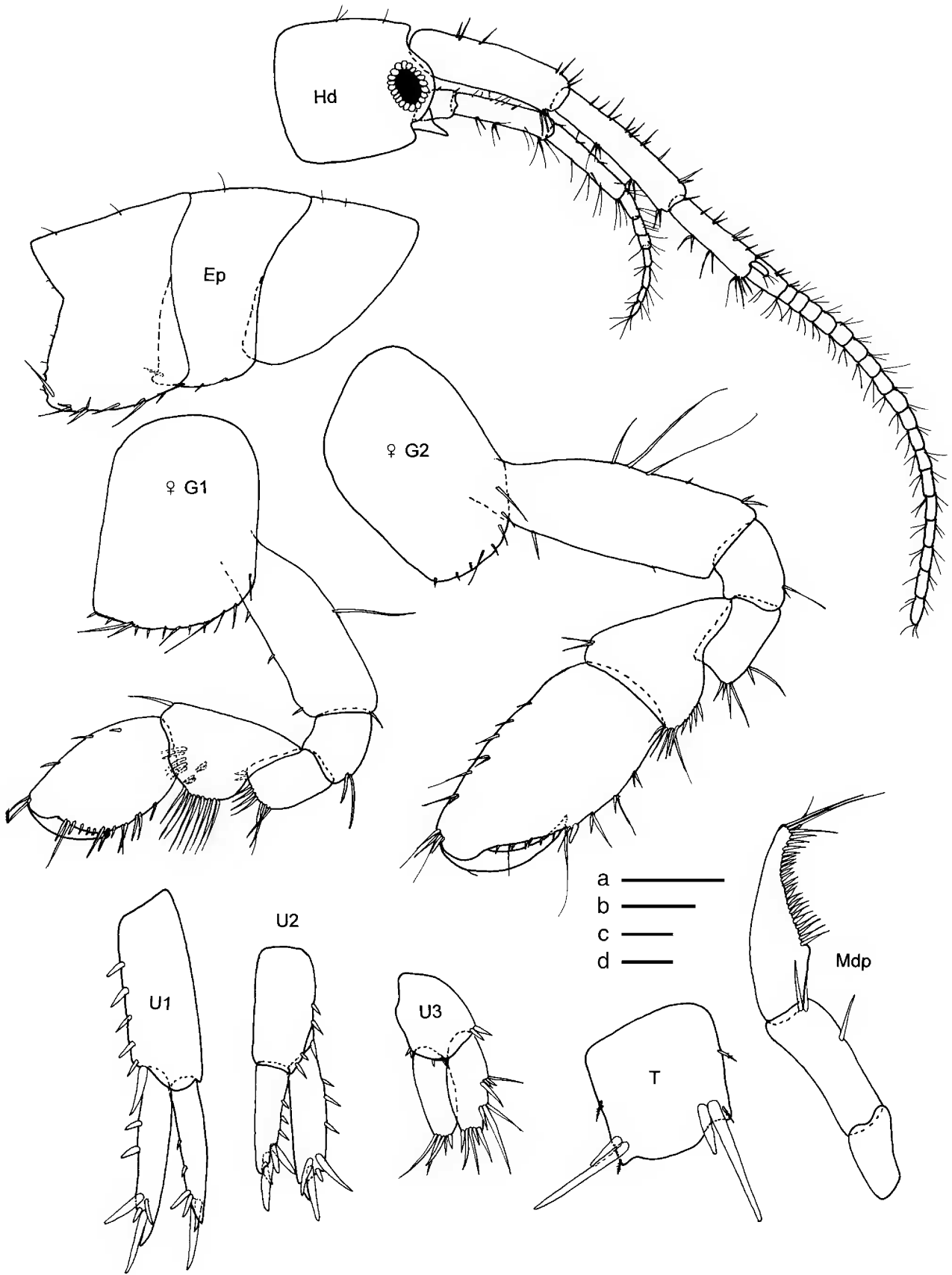


Fig. 6. *Elasmopus pseudinteger* n.sp.: ♂, 3.9 mm, Choisy, scales $a = 0.4$ mm (*Hd*, *Ep*), $c = 0.1$ mm (*U1–3*), $d = 0.05$ mm (*Mdp*, *T*); ♀, 3 mm, Anse la Raie, scale $b = 0.1$ mm (*G1–2*).

Elasmopus puteus n.sp.

Figs. 7, 8

Type material. HOLOTYPE: ♂, 2.8 mm, from mixture of the algae *Pocockiella variegata*, *Sargassum* sp., *Amphiroa* sp. and *Cymodocea* sp., Bain Boeuf (19°59'S 57°36'E), 16 Jun. 1999, AM P60546. PARATYPES: 1 ♂ and 3 ♀, same data as holotype, AM P60547; 1 ♂, 1 ♀ from the algae *Padina* sp., *Digenia simplex*, *Turbinaria ornata* and *Dictyota divaricata*, Roche Noires (20°6.2'S 57°44.5'E), 16 Dec. 1999, AM P60548.

Additional material examined. 2 ♂♂ from *Sargassum* sp. and *Turbinaria ornata*, Bain Boeuf, 15 May 1998. 1 ♂ from *Sargassum* sp., Roche Noires, 20 Jan. 1999. 8 ♂, 29 ♀, 9 juv., from mixture of the algae *Pocockiella variegata*, *Sargassum* sp., *Amphiroa* sp. and *Cymodocea* sp., Bain Boeuf, 16 Jun. 1999. 4 ♀ from mixture of *Sargassum* sp., *Turbinaria ornata* and *Pocockiella variegata*, Bain Boeuf, 12 Oct. 1999. 1 ♀ from mixture of *Padina* sp., *Pocockiella variegata* and coral rubble, Flic-en-Flac, 10 Dec. 1999. 1 ♂, 2 ♀ from *Padina* sp., *Digenia simplex*, *Turbinaria ornata* and *Dictyota divaricata*, Roche Noires, 16 Dec. 1999. 1 ♂, 1 ♀ from mixture of the algae *Padina* sp., *Turbinaria* sp., *Sargassum* sp., *Digenia* sp. and *Pocockiella variegata*, Bain Boeuf, 24 Jan. 2000. 2 ♀ from mixture of the algae *Sargassum* sp., *Digenia simplex*, *Centroceras clavulatum* and *Ulva reticulata*, La Cuvette (20°00'S 57°34.2'E), 25 Jan. 2000.

Description. Male: Length, 3 mm. Head, with subocular notch; eyes, small subround, with clear ommatidia. Antenna 1, peduncle articles sparsely setiferous; peduncle article 2, 0.6× article 1; article 3, 0.5× article 1; accessory flagellum 1-articulate; primary flagellum 13-articulate. Antenna 2, peduncle poorly setiferous; article 5, 0.9× article 4; flagellum 6-articulate, the terminal article rudimentary. Mandible, palp article 2 longest, with 1 medial and 2 distal setae; article 3 falcate, 0.7× article 2, with comb row of setae and 2 long terminal setae. Maxilla 1, inner plate with 2 terminal plumose setae. Labium, mandibular lobes rounded; outer plate with a blunt stout seta on inner margin. Maxilliped, palp article 3 with a small distal protuberance. Gnathopod 1, coxa produced distally, 1.5× as long as broad, with very short setae on distal margin; basis 2.3× as long as broad, posterior margin with a group of long setae; carpus and propodus subequal and each with long setae on the inner face of the anterior margin; propodus with palm almost transverse with a stout defining robust setae. Gnathopod 2, coxa 1.6× as long as broad, distal margin with very short setae; basis 3.2× as long as broad; carpus cup-shaped, twice as broad as long; propodus slender, subpyriform, twice as long as broad, 4× the length of carpus, palm oblique, posterior margin poorly setiferous, with a small subtriangular process on the inner subdistal face and a medial excavation forming a pit into which fits the tip of the dactylus; dactylus evenly curved, about half length of propodus. Pereopods 3–4, basis 3.3× as long as broad; propodus subequal to carpus; dactylus subdistally constricted. Pereopod 5, basis subquadrate tapering distally, posterior margin weakly crenulate with short setae. Pereopod 6, basis subquadrate, posterior margin weakly convex, crenulate and with short setae. Pereopod 7, basis strongly expanded, posterior margin very convex, crenulate with small setae. Epimeron 1 rounded. Epimera 2–3, produced into a weak posterodistal tooth and with a row of robust setae on the anterodistal margin. Uropod 1, rami subequal to each other and to peduncle. Uropod 2, peduncle 0.7× inner ramus; inner ramus 1.1× outer ramus.

Uropod 3, peduncle subequal to inner ramus; inner ramus 0.8× outer ramus; inner ramus with lateral and terminal robust setae; outer ramus with lateral robust setae and a group of terminal robust setae and 1 long slender seta. Telson, deeply cleft; apices notched, outer tooth more developed than inner tooth, each with 1 long and 2 short robust setae.

Female secondary sexual characters: length, 2.5 mm (ovigerous). Gnathopod 1, similar to that of male but lacking long setae on the anterior margin of the carpus and propodus. Gnathopod 2, coxa 1.9× as long as broad; basis 3× as long as broad; carpus 1.4× as long as broad; propodus slender, 2.3× as long as broad, palm oblique, almost straight, defined by two robust setae; dactylus shorter than that of the male, overlapping the inner face of the propodus, but not fitting into a pit.

Remarks. In its general form this species resembles *Elasmopus gracilis* Schellenberg, 1938 but differs in the male gnathopod 2. The propodus posterior margin is sinuous (evenly convex in *E. gracilis*), lacks the dense setation of *E. gracilis* and has a distinct triangular process on the inner face, which is lacking in *E. gracilis*. In addition, the dactylus is much shorter than in *E. gracilis* and fits into a distinct pit.

This species can be distinguished from the other species of *Elasmopus* in Mauritius by the following combination of characters: its poorly setiferous antennae, coxae and propodus of gnathopod 2, and the largely expanded basis of pereopod 7 which is almost as broad as long. It is also a very small species.

Type locality. Bain Boeuf, Mauritius.

Distribution. Only known from Mauritius.

Etymology. From *puteus*—pit, referring to the pit on the inner face of the posterior margin of the male propodus into which fits the tip of the dactylus.

Elasmopus souillacensis n.sp.

Figs. 9, 10

Type material. HOLOTYPE: ♂, 3.5 mm, unique specimen, from mixture of *Amansia glomerata*, *Jania adherens* and *Sargassum densifolium*, Souillac (20°31'S 57°30.7'E), 10 Feb. 2000, AM P60549.

Description. Male, 3.5 mm. Head, with subocular notch; eyes subround with clear ommatidia. Antenna 1, moderately setiferous; peduncle article 2, 0.7× article 1; article 3, 0.5× article 1; accessory flagellum 2-articulate; primary flagellum 13-articulate. Antenna 2, moderately setiferous, article 5, 0.9× article 4; flagellum 7-articulate. Mandible, palp article 2 twice as long as article 1, with 1 medial seta and 2 distal setae; article 3 falcate, 1.1× article 2, with comb row of setae and 3 long apical setae. Maxilla 1, inner plate with 2 terminal plumose setae, and several fine setae on lateral margin. Labium, with mandibular lobes acute; outer plate with a blunt stout seta on inner margin. Maxilliped, palp article 3 with a small distal protuberance. Gnathopod 1, coxa 1.2× as long as broad, anterodistal margin slightly produced, distal margin with short setae about 0.2× the length of coxa; basis 2.6× as long as broad; carpus subequal to propodus; propodus with few groups of setae on medial face, palm defined by a robust seta. Gnathopod 2, coxa

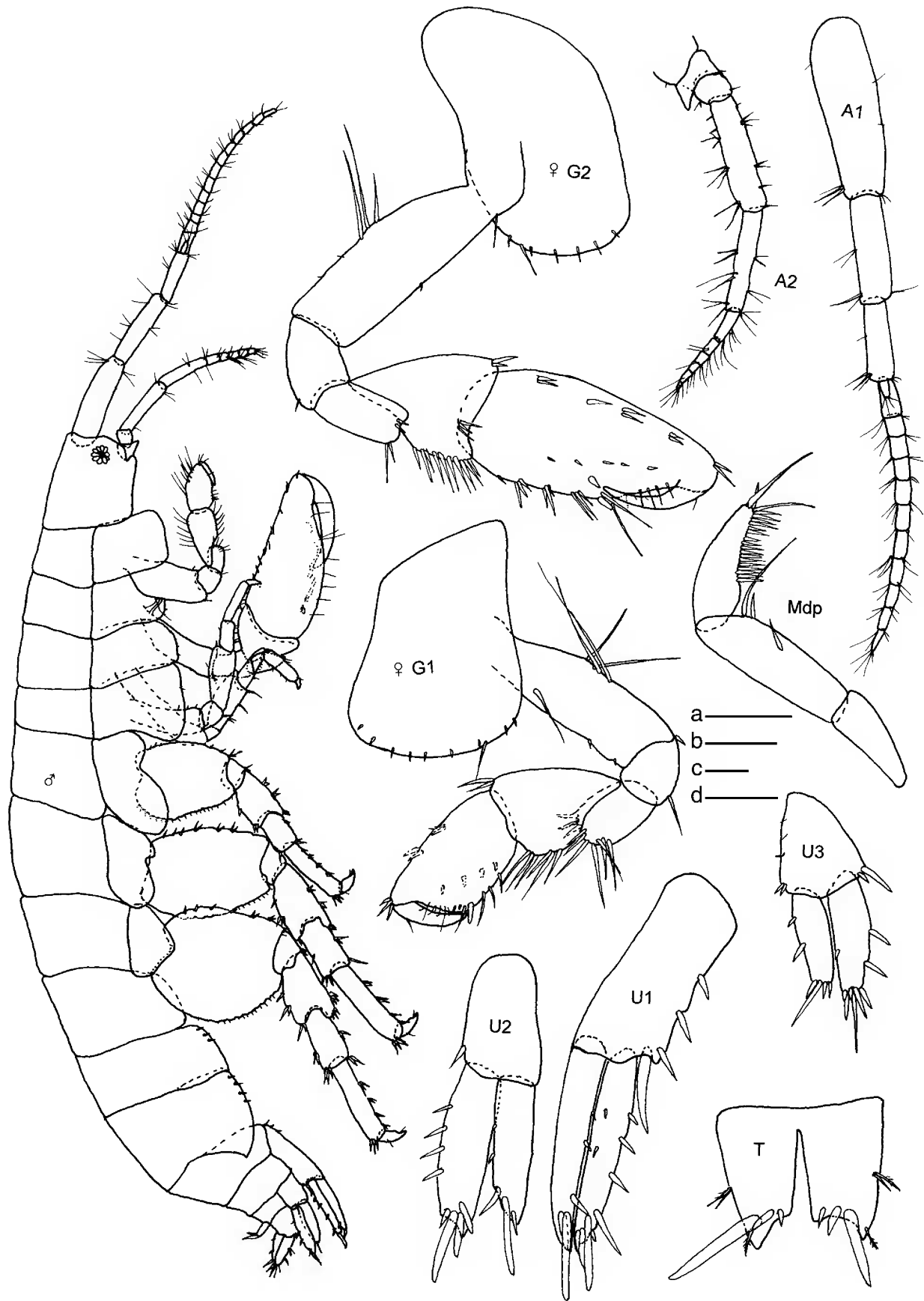


Fig. 7. *Elasmopus puteus* n.sp.: ♂, 3 mm, Bain Boeuf, scales $a=0.4$ mm (whole animal), $b=0.1$ mm (U1–3), $c=0.1$ mm (A1–2), $d=0.05$ mm (Mdp, T); ♀, 2.5 mm, Bain Boeuf, scale $b=0.1$ mm (G1–2).

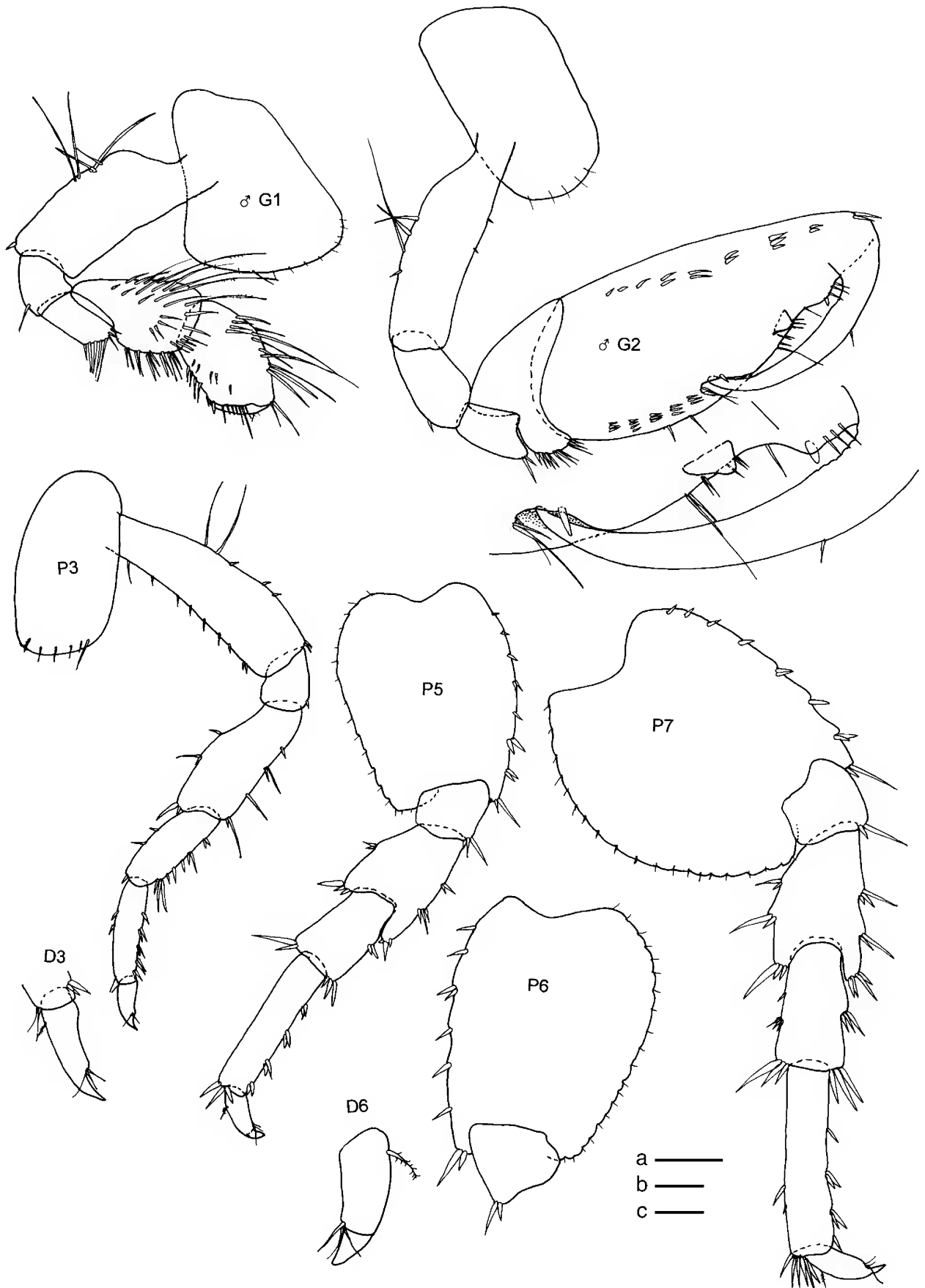


Fig. 8. *Elasmopus puteus* n.sp.: ♂, 3 mm, Bain Boeuf, scales *a* = 0.2 mm (*G1*), *b* = 0.1 mm (*G2*, *P3*, *P5-7*), *c* = 0.05 mm (*D3*, *D6*, enlargement of *G2*).

1.2× as long as broad, distal margin with short setae and a few long setae about one-third length of coxa; basis 2.5× as long as broad; carpus reduced, cup-shaped, 2.2× as broad as long; propodus 2.1× as long as broad, narrowing distally, posterior margin moderately setiferous, with a medial rounded process and a short, oblique palm; dactylus robust, medially expanded and about two-thirds length of propodus. Pereopods 3–4, coxa 1.8× as long as broad; basis 3.6× as long as broad; propodus posterodistal margin with 1 striate sabre seta and 1 normal robust seta; dactylus distally constricted. Pereopods 5–6, basis subquadrate, posterior margin almost straight, weakly crenulate and with short setae. Pereopod 7, basis subovoid, posterior margin weakly crenulate with short setae. Epimera 1–2, posterodistal margin produced into a weak tooth. Epimeron 3, subquadrate with a row of robust setae on the anterodistal margin. Uropod 1, peduncle 1.4× inner ramus; outer ramus 0.9× inner ramus. Uropod 2, peduncle subequal to outer ramus; outer ramus 0.9× inner ramus. Uropod 3, peduncle 0.8× rami; inner and outer rami subequal; inner ramus with robust setae on lateral margin and an apical bunch of robust setae and 1 slender seta; outer ramus with 3 groups of robust setae on the lateral margin and several robust and 2 long fine apical setae. Telson, tapered, cleft to 75% its length; lobes notched with outer tooth more produced than inner tooth; each lobe with 2 strong apical robust setae.

Female. Unknown.

Remarks. *Elasmopus souillacensis* differs from all other species of *Elasmopus* by the combination of: short setae on coxae 1 and 2, the shape of the male gnathopod 2, the subequal rami of uropod 3 and the tapered and notched telson.

Type locality. Souillac, Mauritius.

Distribution. Mauritius.

Etymology. The specimen is named after the type locality.

Elasmopus spinidactylus Chevreux

Fig. 11

Elasmopus spinidactylus Chevreux, 1908: 486, figs. 9, 10.—Walker, 1909: 336.—Schellenberg, 1938: 55.—Shoemaker, 1942: 13.—J.L. Barnard, 1965: 504.—J.L. Barnard, 1970: 136, figs. 81, 82.—Sivaprakasam, 1966: 104, fig. 8; 1968: 50, fig. 6g,h.—Ledoyer, 1972: 223, pl. 40.—Ledoyer, 1982: 482, fig. 183.—Myers, 1985: 108, fig. 86.—Appadoo & Steele, 1998: 639.

Material examined. 2♂♂, 8♀♀, 6 juv., from the alga *Acanthophora spicifera*, Souillac (20°31'S 57°30.7'E), 3 Feb. 1998. 5♂♂, 9♀♀, 3 juv., from a mixture of the algae *Acanthophora spicifera*, *Amansia glomerata* and *Boodlea* sp., Souillac, 13 Aug. 1998. 2♂♂, 8♀♀, 2 juv., from mixture of the algae *Gracilaria millardetii*, *Centroceras clavulatum*, *Digenia simplex* and *Acanthophora spicifera*, Souillac, 10 Nov. 1998. 1♂, 1♀ from *Acanthophora spicifera*, Souillac, 25 Mar. 1999. 2♂♂, 3♀♀ from *Acanthophora spicifera* and *Centroceras clavulatum*, Souillac, 8 Apr. 1999. 1♂ from mixture of the algae *Sargassum* sp., *Ulva lactuca* and *Acanthophora spicifera*, Souillac, 14 Oct. 1999. 1♂, 1♀ from mixture of *Digenia simplex* and *Sargassum densifolium*, Rivière des Galets (20°30'S 57°27'E), 16 Nov. 1999. 1♂, 1♀, 5 juv., from a mixture of *Amansia glomerata*, *Gracilaria millardetii*, *Sargassum* sp., Souillac, 14 Dec. 1999. 1♀, from a mixture of *Digenia simplex*, *Centroceras clavulatum*, *Sargassum* sp., La Cuvette (20°00'S 57°34.2'E), 25 Jan. 2000. 1♂, 3♀♀, 2 juv., from a mixture of the algae *Amansia glomerata*, *Jania adherens* and *Sargassum densifolium*, Souillac, 10 Feb. 2000.

Description. Male: length, 5.2 mm. Head, with subocular notch; eyes large, oval with well-developed ommatidia. Antenna 1, moderately setiferous; article 2, 0.7× length article 1; article 3, 0.6× length of article 1; accessory flagellum 2-articulate; primary flagellum 16-articulate. Antenna 2, peduncle articles with long setae; article 5, slightly shorter than article 4; flagellum 7-articulate. Mandible palp article 2 with 1 medial seta and 4 long distal setae; article 3 falcate, 1.2× length of article 2, with comb-row of setae and 3 long apical setae. Maxilla 1, inner plate with 2 terminal plumose setae and several fine setae on inner margin. Labium, with mandibular lobes acute; outer plate with blunt stout seta on inner margin. Maxilliped, palp article 3 with small protuberance at distal end. Gnathopod 1, coxa subquadrate, 0.8× as long as broad, distal margin with a patch of setae, the longest seta 0.7× length of coxa; basis 2.2× as long as broad with 1 seta on posterior margin; carpus 0.9× length of propodus; propodus 1.6× as long as broad, with two semicircular comb-rows of setae on inner face; palm defined by a short, stout, robust seta. Gnathopod 2, coxa subquadrate, about as long as broad; basis twice as long as broad; carpus reduced, 3.5× as broad as long; propodus 8× as long as carpus, 1.8× as long as broad, posterior margin strongly setose, produced distally into an outwardly deflected flat-topped, obtuse process, palm with a few stout robust setae and long slender setae; dactylus 0.7× length of propodus. Pereopod 3–4, propodus posterodistal margin with 1 large striate, sabre, locking seta and 1 normal robust seta; dactylus with small nipple-like processes and subdistally constricted. Pereopods 5–7, dactylus posterior margin with nipple-like processes. Pereopod 5, basis subovoid. Pereopod 6, basis subquadrate and produced posterodistally into a triangular lobe; Pereopod 7, basis posterior margin convex with short setae. Epimera 1–3, with weak posterodistal tooth. Uropod 1, peduncle 1.2× length of inner ramus; rami subequal. Uropod 2, peduncle shorter than inner ramus; outer ramus 0.8× inner ramus. Uropod 3, peduncle subequal to outer ramus; inner ramus three-quarter length of outer ramus; inner ramus with terminal robust seta, outer ramus with lateral and terminal robust setae. Telson, short, cleft to 50% its length, apices broad and truncate with 2 robust setae on each lobe.

Female secondary sexual characters: length, 5.2 mm (ovigerous). Gnathopod 1, coxa 1.2× as long as broad, distal margin with a patch of long setae about half length of coxa; other features similar to those of male gnathopod 1. Gnathopod 2, coxa subquadrate as long as broad; basis 2.7× as long as broad with 1 seta on posterior margin; carpus 1.5× as broad as long; propodus 1.8× as long as broad, similar to that of male but lacking posterodistal process, palm oblique, with short robust setae, distal margin densely setose; dactylus 0.7× length of propodus.

Remarks. Both males and females of *Elasmopus spinidactylus* are easily recognized by the nipple-like processes on the dactylus of P3–7. The females of this species have an enlarged propodus similar to that of the male.

Habitat. This species occurs mostly on red algae in Mauritius.

Type locality. Makapou Island, Gambier Archipelago.

Distribution. Madagascar, Mauritius, Chagos Archipelago, India, Fiji, Micronesia, Melanesia, Polynesia, Hawaii, Venezuela.

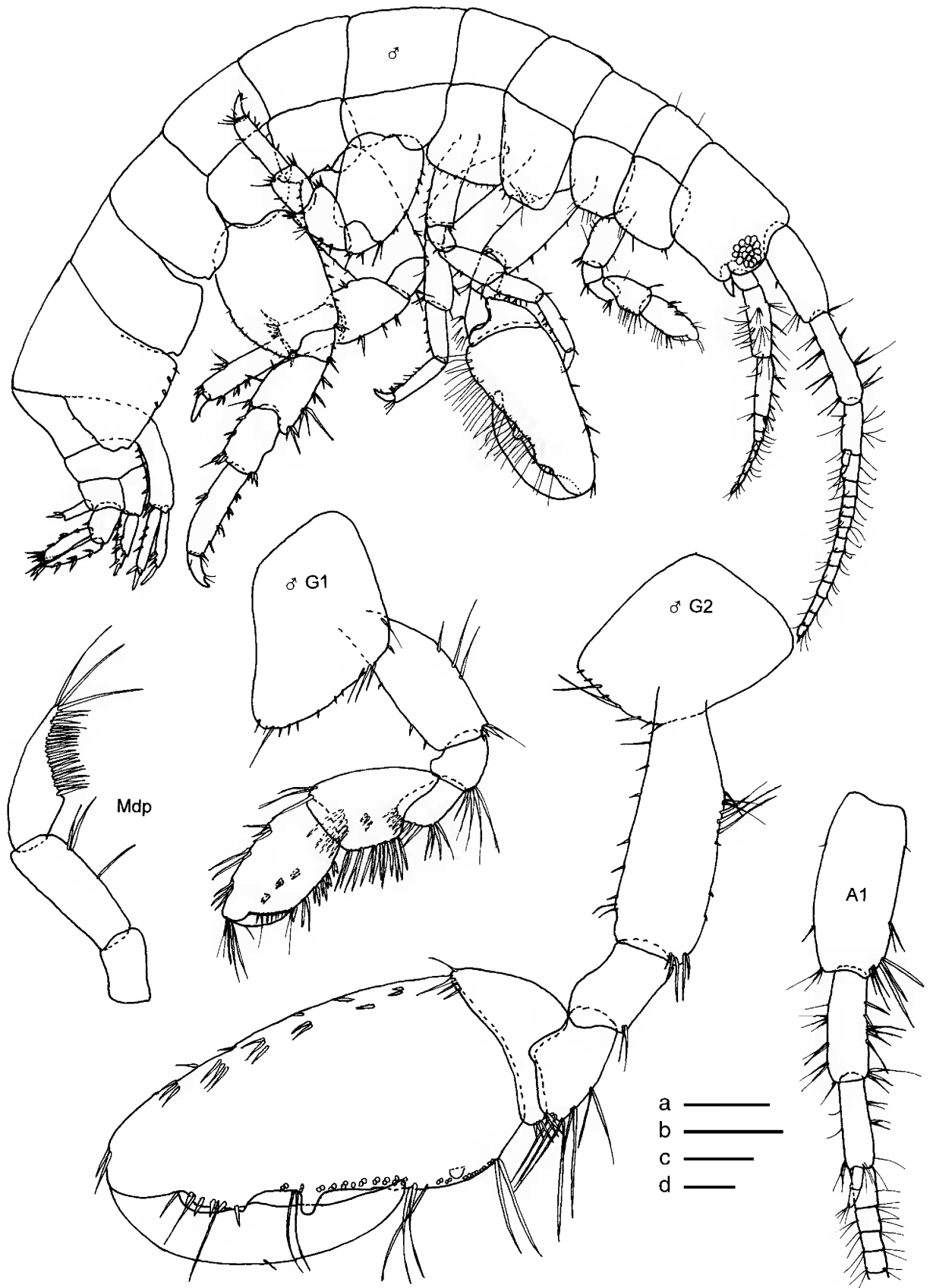


Fig. 9. *Elasmopus souillacensis* n.sp.: ♂, 3.5 mm, Souillac, scales $a = 0.4$ mm (whole animal), $b = 0.2$ mm (G1–2), $c = 0.2$ mm (A1), $d = 0.05$ mm (Mdp).

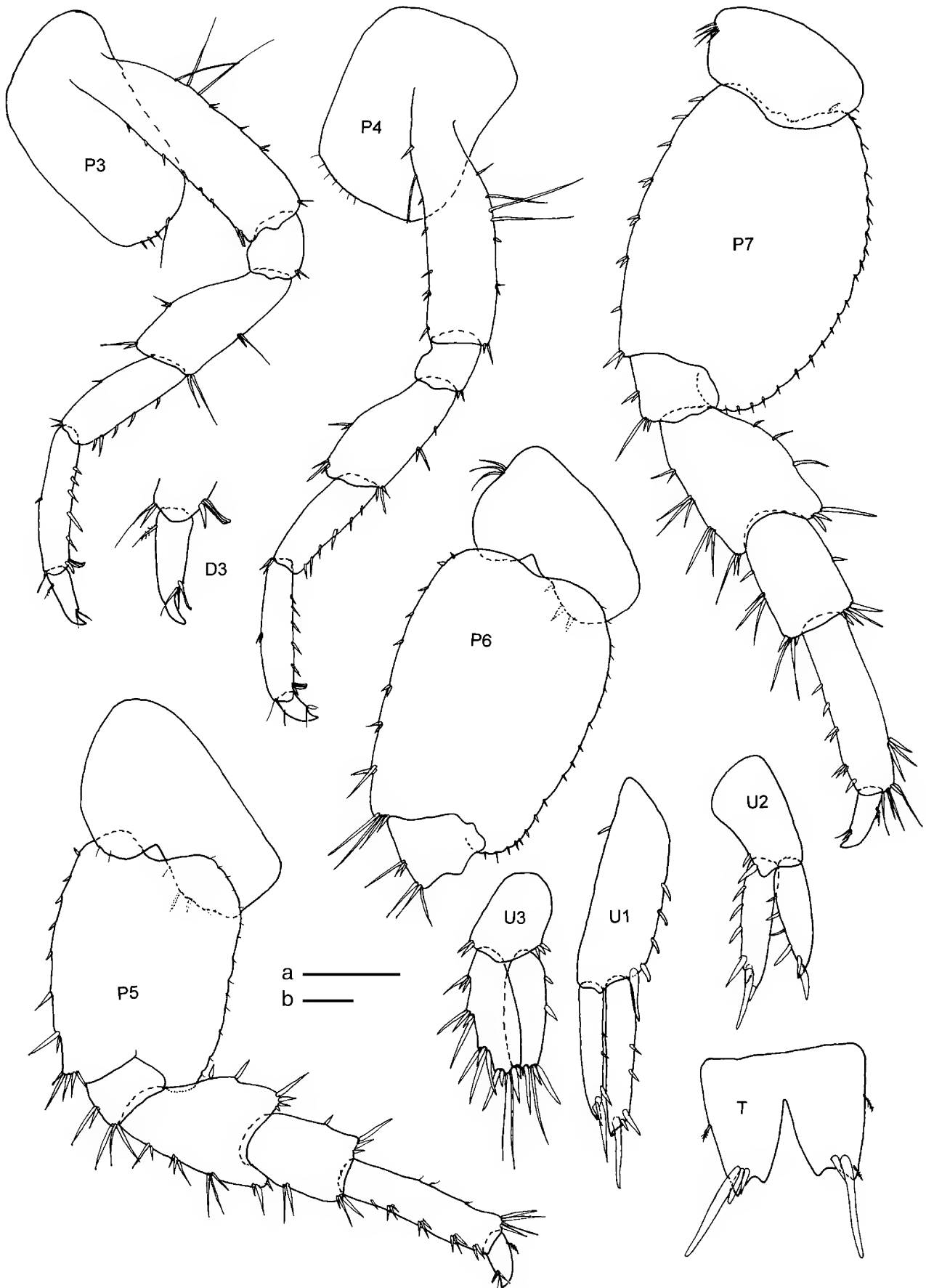


Fig. 10. *Elasmopus souillacensis* n.sp.: ♂, 3.5 mm, Souillac, scales $a = 0.2$ mm (P3–7, U1–3), $b = 0.05$ mm (D3, T).

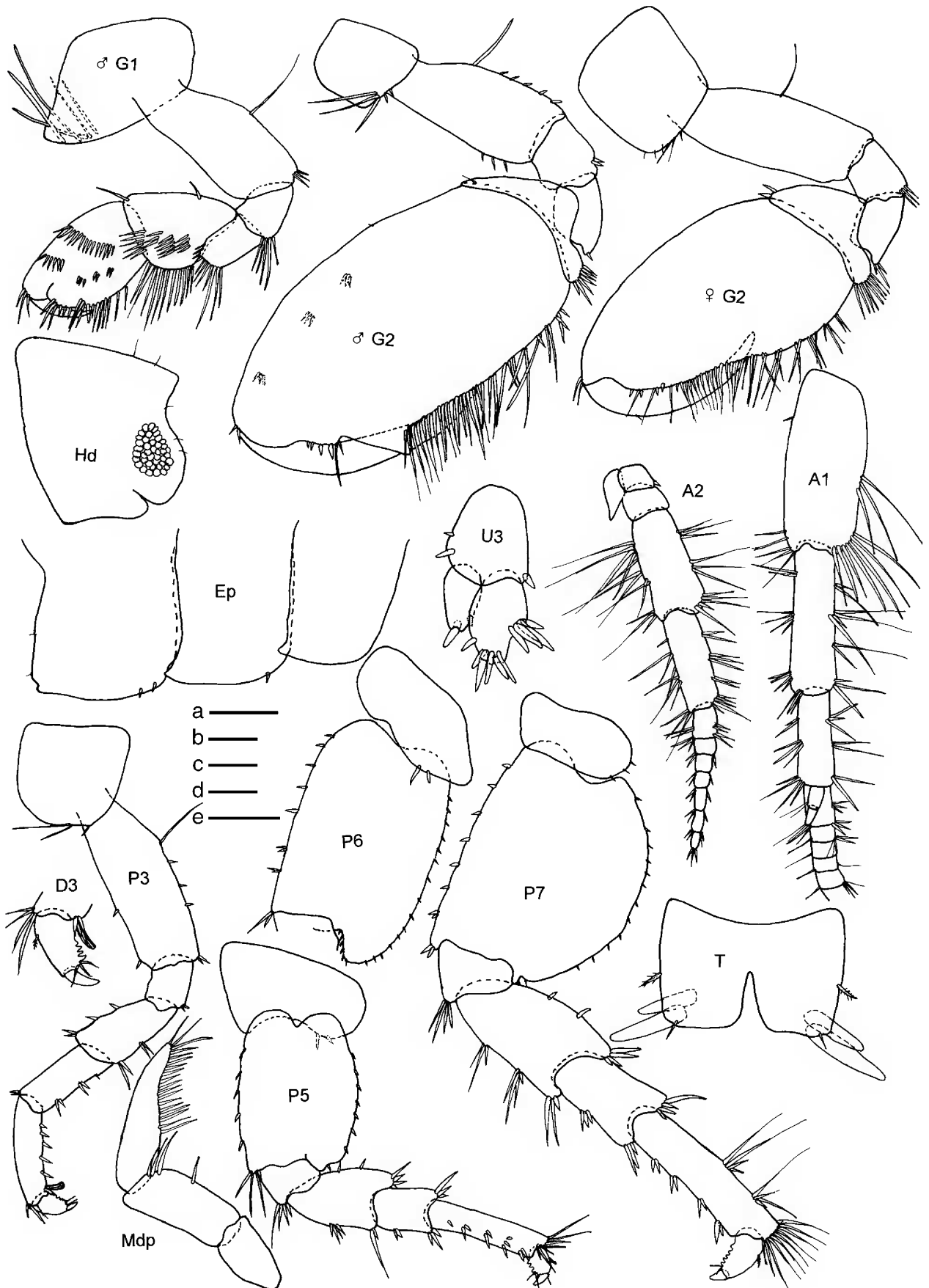


Fig. 11. *Elasmopus spinidactylus* Chevreux: ♂, 5.2 mm, Souillac, scales $a = 0.2$ mm (G1), $b = 0.2$ mm (Hd, A1–2, G2, P3–7, Ep), $c = 0.1$ mm (D3, U3), $d = 0.05$ mm (T), $e = 0.1$ mm (Mdp); ♀, 5.2 mm, Souillac, scale $a = 0.2$ mm (G2).

Elasmopus spinimanus Walker

Fig. 12

Elasmopus spinimanus Walker, 1904: 277, pl. 5, fig. 36.—Pirlot, 1936: 313.—Schellenberg, 1938: 55.—Myers, 1985: 109, fig. 87.

Material examined. 1♂, from mixture of *Amansia glomerata*, *Jania adherens* and *Sargassum densifolium*, Souillac (20°31'S 57°30.7'E), 10 Feb. 2000.

Description. Male, 3.8 mm. Head, with subocular notch; eyes large, subround with circular disc of clear ommatidia enclosing a dark core. Antenna 1, article 2 subequal to 1; article 3, 0.5× article 1; accessory flagellum 3-articulate, article 3 vestigial; primary flagellum 20-articulate. Antenna 2, article 5, 0.8× article 4; flagellum 7-articulate, the terminal article rudimentary. Mandible, palp article 2 with 1 strong distal seta and 2 short medial setae; article 3 falcate, 1.1× article 2 with a comb row of setae and 3 long terminal setae. Maxilla 1, inner plate with 2 terminal plumose setae, and several fine setae on inner margin. Labium, with mandibular lobes acute; outer plate with 2 stout setae. Maxilliped, palp article 3 with a small distal protuberance. Gnathopod 1, coxa 1.4× as long as broad, anterodistal corner slightly produced, distal margin with short setae; basis 2.5× as long as broad; propodus 1.4× carpus with 2 semicircular rows of setae on anterior margin, palm defined by a robust seta. Gnathopod 2, coxa 1.6× as long as broad with short setae on distal margin; basis slender, 4× as long as broad; carpus cup-shaped, 1.5× as broad as long; propodus 2.2× as long as broad and 3.6× length of carpus, posterior margin poorly setiferous, palm sinuous, palm and posterodistal margin with strong stout robust setae; dactylus curved and about half length of propodus. Pereopod 3–4, propodus posterodistal margin with 1 striate, sabre seta and 1 short, straight, robust seta; dactylus constricted subdistally at the junction of the unguis. Pereopod 5, basis subovoid, posterior margin weakly crenulate with short robust setae. Pereopod 6, basis, posterior margin weakly convex, weakly serrated with short setae. Pereopod 7, basis posterior margin weakly convex, serrated and with short setae. Epimera 1–3, posterodistal margin produced into a small but distinct tooth. Epimera 2–3, with robust setae on the anterodistal margin. Uropod 1, peduncle 1.3× inner ramus; outer ramus 0.8× inner ramus. Uropod 2, peduncle subequal to outer ramus; outer ramus 0.8× inner ramus. Uropod 3, peduncle 0.6× outer ramus; rami subequal with robust setae on margins and apices. Telson, cleft to about 80% its length, lobes tapered, notched at tip with an acute inner tooth, each lobe with 2 robust setae.

Remarks. The present material agrees well with Walker's description of *Elasmopus spinimanus*, except that the male gnathopod 2 propodus is subquadrate proximally and excavate on the posterodistal margin (subpyriform in Walker's material). The present material also closely resembles the material described by Myers (1985) from Fiji except that in that material, the coxae of gnathopods 1 and 2 have longer setae, the excavation on the palm of the male gnathopod 2 is not well developed and the telson has more setae on the lateral margins. Fijian material examined in the present work, has the posterodistal margins of the propodus of pereopods 3 and 4 with 1 striate locking seta and 1 normal robust seta (c.f. Myers, 1985, fig. 87). The

tapered and notched telson, the subequal uropods 3 and the spinous, poorly setiferous palm of gnathopod 2 taken together, distinguish this species from other *Elasmopus* from Mauritius.

Type locality. Sri Lanka.

Distribution. Mauritius, Sri Lanka, Fiji.

Elasmopus steelei n.sp.

Figs. 13, 14

Elasmopus sp. 1.—Appadoo & Steele, 1998: 639.

Type material. HOLOTYPE: ♂, 3.3 mm from mixture of the algae *Sargassum densifolium*, *Amansia glomerata*, *Jania adherens* and *Digenia simplex*, Souillac (20°31'S 57°30.7'E), 14 Oct. 1999, AM P60550. PARATYPES: 3♂♂, 1♀, same data as holotype, AM P60551; 3♂♂, 7♀ from *Sargassum densifolium* and *Amansia glomerata*, Souillac, 4 Aug. 1999, AM P60552.

Material examined. 4♂♂, 4♀♀, 3 juv., from *Sargassum densifolium* and *Ulva reticulata*, Souillac, 3 Feb. 1998. 1♂ from the alga *Gelidiella* sp., Flic-en-Flac, opposite Klondike Hotel (20°15.7'S 57°22'E), 12 May 1998. 2♂♂, from the algae *Amansia glomerata* and *Boodlea* sp., Souillac, 13 Aug. 1998. 2♂♂, 2♀, from the alga *Dictyota divaricata*, La Cuvette, 28 Aug. 1998. 15♂♂, 15♀, 6 juv., from the algae *Amansia glomerata*, *Ulva reticulata*, *Acanthophora spicifera*, Souillac, 25 Mar. 1999. 1♂, 1♀ from *Sargassum* sp. and *Ulva reticulata*, La Cuvette (20°00'S 57°34.2'E), 5 May 1999. 1♂, 8♀, 5 juv., from *Sargassum densifolium* and *Amansia glomerata*, Souillac, 4 Aug. 1999. 5♂♂, 2♀, 3 juv., from mixture of *Sargassum densifolium*, *Amansia glomerata*, *Jania adherens* and *Digenia simplex*, Souillac, 14 Oct. 1999. 4♂♂, 3♀, 4 juv., from mixture of *Sargassum densifolium*, *Ulva reticulata*, *Amansia glomerata* and *Jania adherens*, Souillac, 10 Feb. 2000.

Description. Male: length, 2.8 mm. Head, with subocular notch; eyes small and round. Antenna 1, densely setose; peduncle articles 1 and 2 subequal; article 3, 0.6× article 1; accessory flagellum 2-articulate, the terminal article vestigial; primary flagellum 20-articulate. Antenna 2, densely setose; article 5, 0.9× article 4; flagellum 9-articulate. Mandible palp, article 2, 1.4× article 1, with 1 medial and 2 distal setae; article 3 falcate, 1.1× article 2, with a comb row of setae and 2 long apical setae. Maxilla 1, inner plate with 2 plumose terminal setae and several fine marginal setae. Labium, with mandibular lobes acute; outer plate with a blunt stout seta on inner margin. Maxilliped, palp article 3 with a small distal protuberance. Gnathopod 1, coxa anterodistally produced, about as long as broad, distal margin densely setose, a few setae equal to the depth of the coxa; basis 2.4× as long as broad; carpus inner face densely setose, subequal in length to propodus; propodus inner face densely setose, palm defined by a robust seta. Gnathopod 2, coxa 1.2× as long as broad, distal margin with setae about half length of coxa; basis 2.6× as long as broad, anterodistal margin with stout robust setae; carpus cup-shaped, 1.8× as broad as long; propodus twice as long as broad, 4.5× length of carpus, posterior margin weakly sinuous and with dense rows of pectinate setae; dactylus elongate, nearly two thirds length of propodus, inner margin expanded at about a quarter its length. Pereopods 3–4, coxa distal margin with a strong group of setae about half length of coxa; basis 3× as long as broad; propodus posterodistal margin with 1 striate sabre seta and

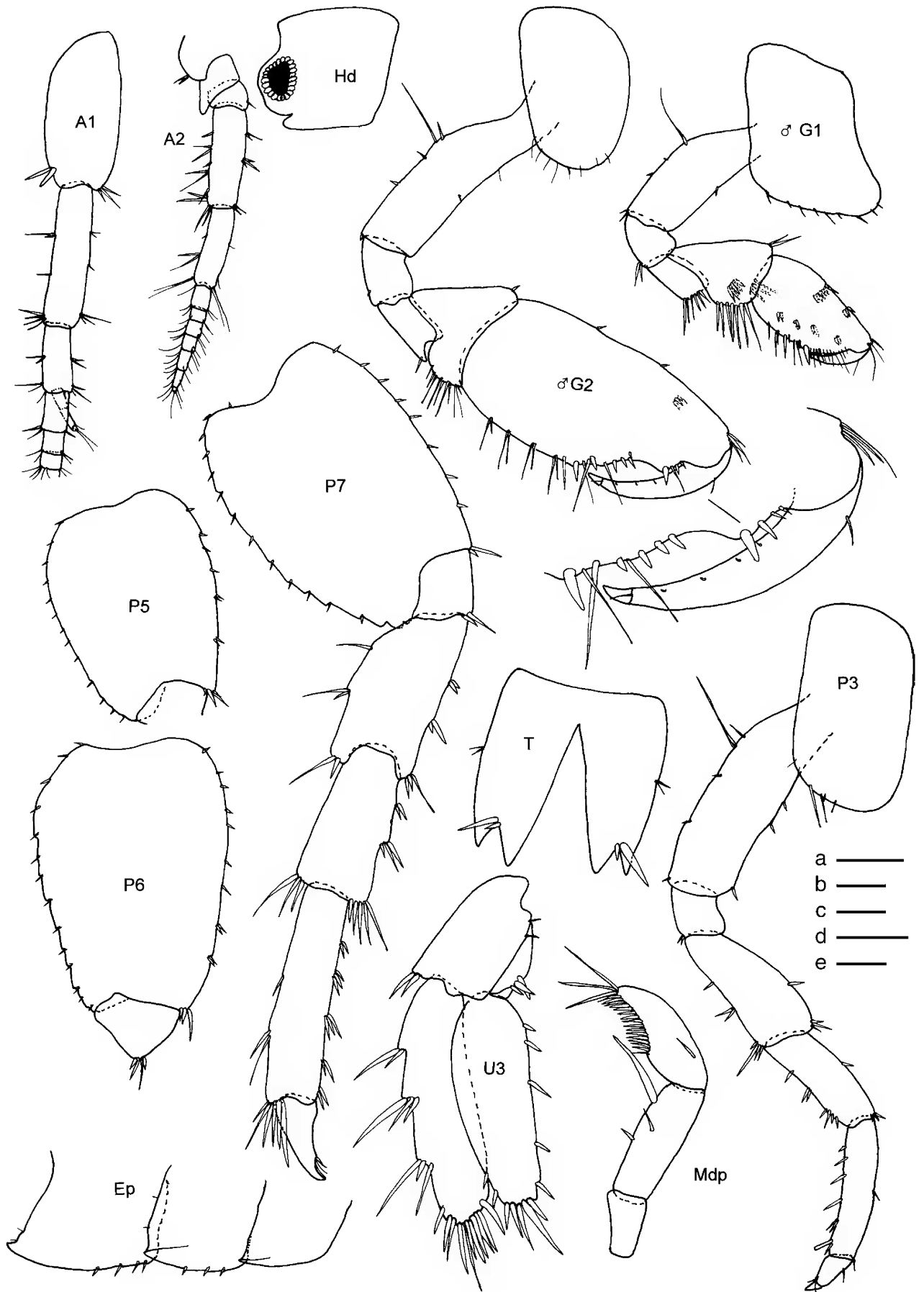


Fig. 12. *Elasmopus spinimanus* Walker: ♂, 3.8 mm, Souillac, scales *a* = 0.2 mm (A1-2), *b* = 0.2 mm (Hd, Ep), *c* = 0.1 mm (G1-2, P3, P5-7), *d* = 0.1 mm (U3, T), *e* = 0.05 mm (Mdp, enlargement of G2).

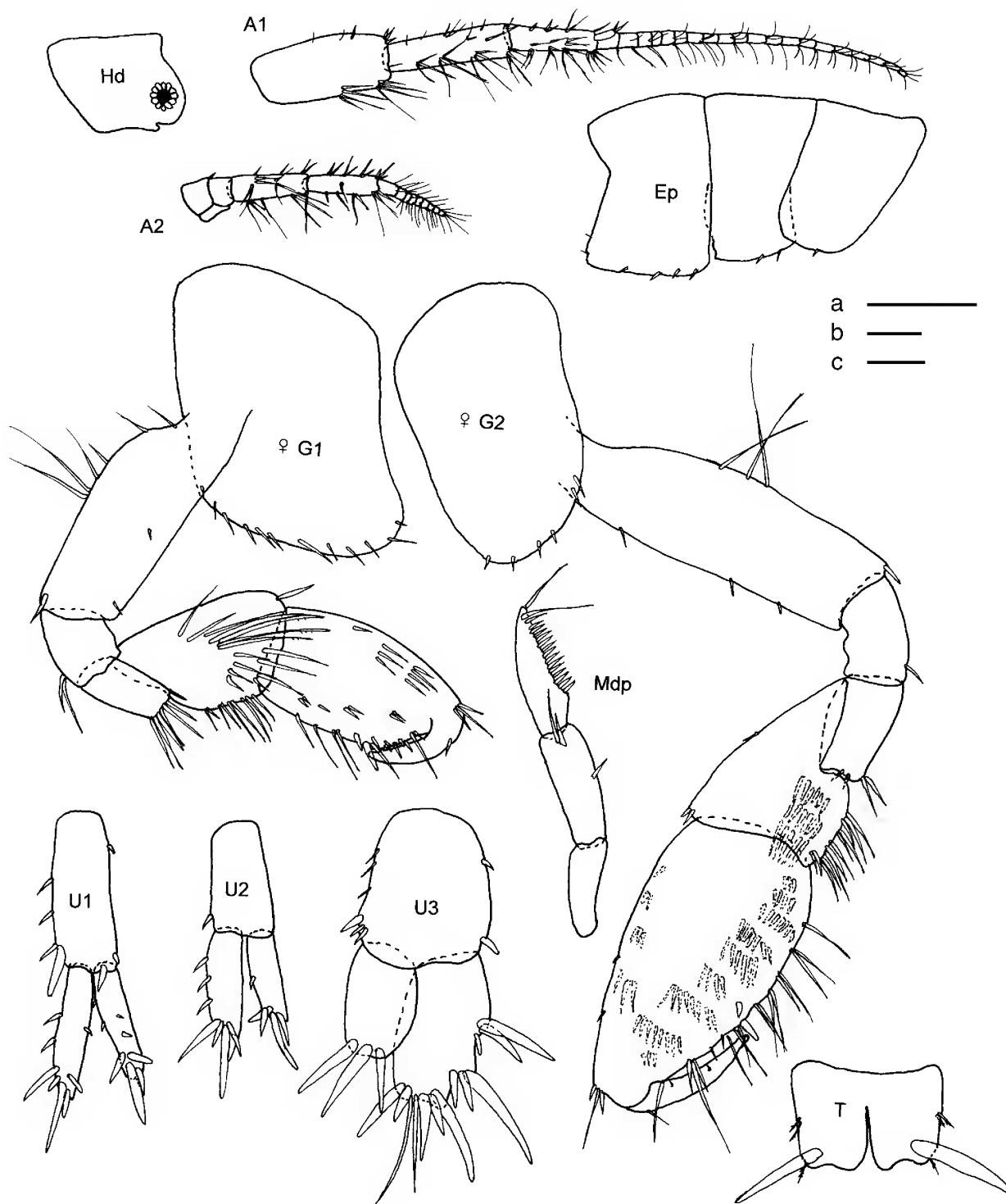


Fig. 13. *Elasmopus steelei* n.sp.: ♂, 2.8 mm, Souillac, scales $a = 0.4$ mm (A1–2, Hd, Ep), $b = 0.1$ mm (U1–2), $c = 0.05$ mm (Mdp, T, U3); ♀, 2.3 mm, Souillac, scale $c = 0.05$ mm (G1–2).

1 normal robust seta; dactylus subdistally constricted. Pereopod 5, basis subquadrangular, posterior margin weakly crenulate and with short setae. Pereopod 6, basis subquadrangular, posterior margin weakly concave, weakly crenulate with short setae. Pereopod 7, basis subovate, posterior margin strongly convex, castelloserrate with short setae. Epimera 1–3, with a row of robust setae on anterodistal margin. Epimeron 1, subquadrangle. Epimeron 2, slightly produced into a weak posterodistal tooth. Epimeron 3,

subquadrangle. Uropod 1, peduncle $1.3 \times$ rami; rami subequal. Uropod 2, peduncle subequal to outer ramus; outer ramus $0.8 \times$ inner ramus. Uropod 3, inner ramus $0.8 \times$ outer ramus and with terminal robust setae only; outer ramus $0.9 \times$ peduncle, with two groups of robust setae on the lateral margins and a group of robust and 2 slender apical setae. Telson, cleft to 75% its length; lobes notched, each lobe with 1 strong robust seta.

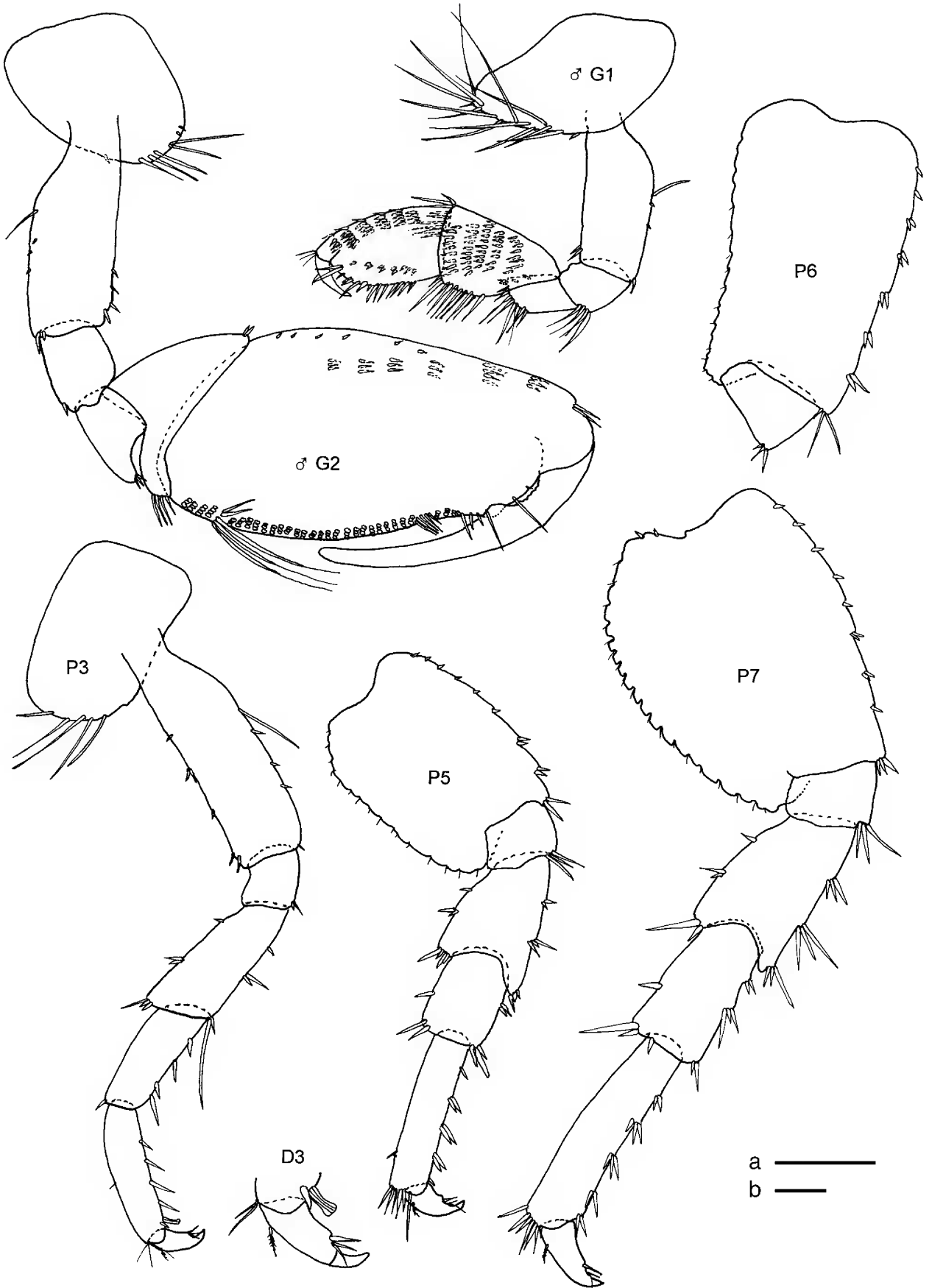


Fig. 14. *Elasmopus steelei* n.sp.: ♂, 2.8 mm, Souillac, scales $a = 0.2$ mm (G1–2, P3, P5–7), $b = 0.05$ mm (D3).

Variation with size. In younger males the robust setae on the distal end of the basis of gnathopod 2 are not well developed, the dactylus of gnathopod 2 is shorter and the medial expansion of the dactylus is weak.

Female secondary sexual characters: length, 2.3 mm (ovigerous). Gnathopod 1, coxa 1.3× as long as broad, distal margin with numerous short setae; basis 2.6× as long as broad; propodus 1.2× length of carpus, 1.9× as long as broad, palmar margin with a defining robust seta. Gnathopod 2, coxa 1.5× as long as broad; basis 3× as long as broad; carpus 1.5× as long as broad; propodus 2.1× as long as broad, palm defined by a stout robust seta; dactylus fitting palm.

Remarks. This species is superficially similar to *E. ecuadorensis* Schellenberg (see also J.L. Barnard, 1979), but differs in several ways. The male gnathopod 2 coxa bears long setae and the basis anterodistal margin has robust setae, both characters absent in *E. ecuadorensis* and the propodus has a weakly developed palmar protrusion (strongly transverse in *ecuadorensis*). The propodus of pereopods 3–4 has a striate, sabre, locking seta (striate but lanceolate in *E. ecuadorensis*). The posterior margin of the basis of pereopod 6 is concave in present material but straight to weakly convex in *E. ecuadorensis* and pereopod 7 basis is castellate in present material but weakly serrate in *Elasmopus ecuadorensis*. *Elasmopus steelei* also

resembles *E. lapu* Myers and *E. palu* n.sp., but differs from both species in several ways. In *E. steelei*, the male gnathopod 2 basis bears a row of robust setae on the anterodistal margin (absent in *E. lapu* and *E. palu*) and lacks the well-developed palmar shelf and the well-developed ridge which occurs on the inner face of the propodus of *E. lapu* and *E. palu*. In addition, the basis of pereopod 6 is more elongate and the posterior margin is concave. In addition, *E. steelei* differs from *E. palu* n.sp. in the long setae on the male coxa 1–2 and in the subquadrate epimeron 3 (two teeth in *E. palu*).

This species can be distinguished from other *Elasmopus* species from Mauritius by the following combination of characters: the densely setose distal margin of coxae, the densely setose posterior margin of male gnathopods 1 and 2; the medially expanded dactylus of the male gnathopod 2, the striate sabre seta on the propodus of pereopods 3 and 4 and the characteristically shaped basis of pereopod 6.

Type locality. Souillac, Mauritius.

Distribution. Mauritius.

Etymology. This species is named after Prof. Donald H. Steele of Memorial University of Newfoundland, in recognition for having introduced one of the authors (CA) to the study of amphipods.

Key to the species of *Elasmopus* recorded from Mauritius

- | | | |
|---|--|---------------------------------------|
| 1 | Uropod 3 rami subequal in length | 2 |
| — | Uropod 3 rami unequal, inner ramus shorter than outer | 4 |
| 2 | Telson entire | (Figs. 5, 6) <i>E. pseudointeger</i> |
| — | Telson cleft | 3 |
| 3 | Telson with longest robust seta as long as telson; male G2, propodus pyriform, posterior margin with medial tooth; dactylus broad, two-thirds length of propodus | (Figs. 9, 10) <i>E. souillacensis</i> |
| — | Telson with longest robust seta less than a quarter length of telson; male G2 propodus subquadrangular posterior margin without medial tooth, dactylus relatively slender, half length of propodus | (Fig. 12) <i>E. spinimanus</i> |
| 4 | Pereopods 3–4 propodus posterodistal margin with striate sabre shaped robust seta | 5 |
| — | Pereopods 3–4 propodus posterodistal margin with straight robust setae only | 8 |
| 5 | Pereopods 3–7 dactylus posterior margin with small nipple-like projections | (Fig. 11) <i>E. spinidactylus</i> |
| — | Pereopods 3–7 dactylus without nipple-like projections | 6 |
| 6 | Gnathopod 2 male basis anterior margin with dense brush of long setae, propodus with two teeth on posterior margin | <i>E. molokai pilosus</i> |
| — | Gnathopod 2 male basis anterior margin without dense brush of long setae, propodus posterior margin lacking teeth | 7 |

- 7 Epimeron 3, posterodistal margin without teeth, male coxae 1–2
with some setae as long as coxa (Figs. 13, 14) *E. steelei*
- Epimeron 3, posterodistal margin with two small teeth, male coxae
1–2 with setae much shorter than length of coxae (Fig. 3) *E. palu*
- 8 Pereopod 6–7, basis deeply castelloserrate (Fig. 4) *E. pecteniscrus*
- Pereopod 6–7, basis weakly serrated 9
- 9 Gnathopod 2, male propodus posterior margin densely setose (Figs. 1, 2) *E. menurte*
- Gnathopod 2, male propodus posterior margin only weakly
setiferous 10
- 10 Coxa 1–2 male with some long setae on distal margin 11
- Coxa 1–2 male with short setae only 12
- 11 Coxa 1 male anterodistal corner acute, P7 basis distinctly longer
than broad *E. pseudaffinis* form B Ledoyer
- Coxa 1 male anterodistal corner obtuse P7 basis almost as broad
as long *E. pseudaffinis* form A Ledoyer
- 12 Gnathopod 2 male dactylus two-thirds length of propodus, fitting,
when in closed position, into pit on posterior margin of propodus (Figs. 7, 8) *E. puteus*
- Gnathopod 2 male dactylus less than half length of propodus,
lacking pit for reception of tip *Elasmopus* sp. Ledoyer (1978)

Biogeographic remarks

The genus *Elasmopus* is one of the most diverse amphipod genera on the shallow reefs of Mauritius. Thirteen species are now recorded from the island of which at least five species are currently thought to be endemic to Mauritius (or perhaps to the Mascarenes). Three species recorded by Ledoyer (*E. pseudaffinis* form A, *E. pseudaffinis* form B and *Elasmopus* sp.) may also prove to be endemics. Both age and isolation favour the development of endemics (Myers & Giller, 1988). The relatively high endemism of Mauritius, not only for amphipods, but also for its terrestrial fauna, suggests a long evolutionary history. According to McDougall & Chamalaun (1969) volcanic rocks of Mauritius date only to the early Pliocene (7.8 my) but either Mauritius, a Mauritius progenitor, or other Mascarene islands must, in our opinion, be considerably older, facilitating anagenesis and phylogenesis probably since the late Cretaceous, as in the case of the Seychelles.

Of the Mauritius *Elasmopus* spp., two species are currently thought to be cosmopolitan (*E. spinidactylus* and *E. pecteniscrus*), and one species (*E. menurte*), previously known only from the Eastern Indian ocean, is now reported from the Western Indian Ocean.

Of the new species described herein, *E. palu* resembles *E. lapu* from Fiji; *E. steelei* also resembles *E. lapu* as well as *E. ecuadorensis* from the eastern Pacific; *E. pseudinteger* appears to be closely related to *E. integer* from the Society Islands; and *E. puteus* resembles *E. gracilis* a widespread Indo-Pacific species.

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